UNIVERSITY OF PENNSYLVANIA

PROCEDURES IN DEVELOPING CHARACTER CONTROLS THROUGH INSTRUCTION

OAMER DANIEL PRIDDLE

A THESIS

IN EDUCATION

PRESENTED TO THE FACULTY OF THE GRADUATE SCHOOL OF THE UNIVERSITY OF PENNSYLVANIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

PHILADELPHIA

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INTRODUCTION

Perhaps there is no subject of more vital interest to the religious educator than methods and procedures of developing conduct and character through the training of the emotional life. During the past ten years the subject has received increasing attention. During the coming ten years it will, doubtless, assume still greater proportions. "Probably the greatest change that will take place in the next fifty years will be relative to the training of the emotions. A child's emotional attitude toward life is all important. The development of character is vitally concerned with the development of the emotional life of the child." [1]

The interest and trend of today has been expressed by Jones in his recent book, "Education and the Individual." "The individual is the starting point. . . . he must form certain habits, develop certain skills, attitudes and ideals. It is the function of society to determine in a large measure what these skills, habits and attitudes shall be." [2] It is the function of the school to provide, select, direct and adjust stimuli that will evoke desired responses in the life of the individual, so that the desired realizations, sensings, attitudes, motives and standards may be developed. It is the function of the expert to provide the technique, methods and procedures necessary to accomplish the desired ends.

We may ask similar questions and perhaps arrive at conclusions similar to the conclusions deduced by Watson, who writes, "Has this individual through his repertoire of acts gained through general schooling the possibility of developing an artist, a singer, a business executive? Could a wonderful golf player be made of this man? If so what steps should we take, what technique should we employ to accomplish the necessary habits rapidly and so that they

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1. Hillbrand, E. K., Character Education from the Standpoint of the Educator, The Phi Delta Kappan. 9:133, April:1927.

2. Jones, A. J., Education and the Individual, p. 180.

will endure permanently? Again, we have him filled with fears, unduly shy, bashful, stammering. Can we change this behavior? If so, what techniques should we follow? On the other hand could we put a wholesome fear in this child that plays with snakes, hugs every dog he sees and picks up every strange cat? In this work is involved....the experimental manipulation of stimulus and the reaction of stimulus-response must be added to or substracted from until appropriate stimulus is attained, and if the desired or expected response is not in the repertoire of the individual, it must be established if there is raw material of a kind to utilize for building it." [3]

This entire field awaits the investigation of the experimentor and until some definite work has been done we cannot hope for much advance in the field of conduct, character and religious education. Little experimentation has as yet been done. We have no experimental knowledge of the relation between ideals conveyed by words and the development and control of corresponding conduct. "No experimentation has established a technique for improving the child's attitude toward desirable and undesirable ways of behaving. His insight into the difference between them, and his direction of his own behavior into one rather than the other form of response." [4] "Some of the recent studies seem to show....that methods suited to formal ends are not always efficient in developing attitudes and appreciations." [5]

Some studies of a few years ago showed that there was little or no definite correlation between knowledge and conduct. This led to a depreciation of the value of both content-material and instruction in the development of conduct and character in the field of religious education. For-

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3. Watson, J. B., Psychology from the Standpoint of a Behaviorist, pp. 7-8.

4. Hartshorne, H. A., A Research Extraordinary. Religious Education, 19:398, December:1924.

5. Jones, A. J., Education and the Individual, p. 193.

tunately the logic of the position did not become effective or the development of character and conduct might have been left to chance formation. However, if such studies has been continued that might have revealed the more discriminating truth, that it is neither content-material nor instruction that has little correlation with conduct and character, but rather specific kinds of knowledge and specific methods of instruction. Knowledge as taught in conventional ways may not determine conduct. This does not mean that knowledge taught differently or different kinds of knowledge may not influence conduct. Hartshorne and May have shown, for instance, that group standards or group codes are closely related to group conduct. "When correlated the average moral knowledge scores of groups with the average honesty score or average helpfulness scores of the same groups, they got correlations as high as 80....This study indicates that when knowledge is incorporated into the unwritten code of a group it becomes effective?" [6]

THE PURPOSE OF THIS STUDY

The purpose of this study is to set up procedures by which character controls may be developed through instruction, and to illustrate procedures by which the methods used may be experimentally evaluated. It is not the purpose of the study to evaluate either the procedures for developing character controls or to evaluate the procedures for experimentally evaluating them. The study is related to extended experimentation in the field of religious education, as the architect's plans are related to the construction of the building. The plans are essential to the symmetry, proportion and artisticness of the building; they are imperative to the construction of the super-structure; and they make a definite contribution for which builders pay great sums.

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6. May M. A., What Science Offers to Character Education. Religious Education, 23:566, June:1928.

THE PROCEDURES FOLLOWED IN THIS STUDY

The procedures followed in this study may be summarized by chapters. Chapter One sets forth the psychological basis of some different forms of character controls which may be developed through instruction. Chapter Two shows there are differences between the different forms of control which necessitate different methods of procedure. Chapter Three defines, illustrates and applies the methods of procedure in the field of religious education. Chapter four illustrates, by two experiments, how procedures may be evaluated. Chapter Five outlines difficulties that limit this type of experimentation.

THE LIMITATIONS OF THE STUDY

The extent of this study is limited by the purpose of the study which consists in presenting and illustrating procedures that may be employed in developing character controls through instruction.

The study is also limited by the lack of adequate tests and by the time that would be consumed in the construction of such tests. "It is impossible to know exactly what the prevailing conditions are or to experiment with assurance until tests have been devised and validated which will reveal and measure the facts. Such tests do not exist." [7]

A still further limitation to the study is due to the lack of time and the necessary facilities for extended experimentation. Experimentation in the field of religious education cannot be legally conducted in the public schools. The irregular conditions of the ordinary Sunday School, as at present conducted, is not conducive to controlled experimentation. Attendance is irregular and standard physical conductions are unusual. The Week Day School of Religion, with regularity of attendance and better controlled physical conditions, is the most desirable laboratory for this type

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7. Hartshorne, H. A., A Research Extraordinary. Religious Education, 19:397, December:1924.

of experimentation, now available. However, such schools are not numerous and are usually under the direct control of pastors who have little knowledge of investigations of this sort and still less sympathy for them. Besides, such schools are usually manned by a voluntary staff. The training of the voluntary teacher for experimental work is exceedingly unsatisfactory. Extended experimentation in this field seems to be the task of a group of well trained denomoninational leaders, such as Secretaries or Directors of Religious Education, who conduct training courses in which a course in experimentation may be offered. Thus, teachers knowing the technique of experimentation would be available and controlled experimentation might be conducted on a large scale. The absence of these factors has limited the present study.

CHAPTER I.

A PSYCHOLOGICAL BASIS FOR THE DEVELOPMENT OF CHARACTER CONTROLS THROUGH INSTRUCTION

Physical control arises through the response of the organism to stimuli. The child, at birth, has no control of his organism. He is unable to get his finger to his mouth. It requires about one half an hour to co-ordinate the series of reflexes involved in sucking. [1] The limbs, if stimulated, move at random. There are no so-called instincts to guide such reactions. Watson, Dunlap, Allport, etc., reject the ancient doctrine of instinct. "Actual observation, from experimentation, makes it impossible for us any longer to entertain the concept of instinct. We have seen that every act has a genetic history." [2] "We no longer need the term instinct in psychology. Everything we have been in the habit of calling an instinct today is the result largely of training and belongs to man's learned behavior." [3] Modern psychologists also tend to deny the existence of inherited emotions. "I wish to draw the conclusion that there is no such a thing as an inheritance of capacity, talent, temperament, mental constitution and characteristics." [4] There is just as little evidence for inheritance of these complicated patterns of response commonly called emotional as there is for the inheritance of those called instinctive." [5] "All metal phenomena whether movements, sensations, emotions, impulses or thoughts are a person's acts, but every act is a response to some present stimuli." [6]

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p. 260.

1. Watson, J. B., Psychology from the Standpoint of a Behaviorist,
2. Watson, J. B., Psychologies of 1925, p. 32.
3. Ibid, p. 2.
4. Ibid, p. 1.
5. Ibid, p. 55.
6. Woodworth, R. S., Psychology: A study of Mental Life, p. 47.

Thus we may eliminate from our study, James' "Metaphysical assumption" of instincts and consider human behavior, conduct and character-controls as the response of the organism to stimulation. "Every thought, feeling, movement and prevention of movement is a response to some stimulus." [7]

However, most modern psychologists agree that the child is born with a definite physical organism, a structural mechanism, a nervous system including the automatic nervous system and a few pattern responses. "I feel reasonably sure that there are three different forms of response that can be called out at birth by three sets of stimuli . . . .fear, rage, and love. . . . .These reactions are at first quite indefinite. They are certainly not the complicated kind of emotional reactions we see later on in life, but at least I believe they form the nucleus out of which all future emotional reactions arise. So quickly do they become conditioned that it gives a wrong impression to call them inherited modes of response." [8]

Burnham maintains that the child, at birth, has the mechanism of the ordinary reflexes—breating, sneezing, coughing—but only vast potentialities for the acquisition of conditioned reflexes. Thorndike expresses a similar belief when he writes, "man does not have at birth, a complicated system of neurone connections—he has rather some actual behavior patterns and multitudious possibilities. The activities of the neurones which cause behavoir are by original nature often arranged in long series involving all degrees of preparedness for connection making on the part of some as well as actual connection making on the part of others." [9] "Man enters the world with certain reaction possibilities in his possession." [10]

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7. Skinner, C. E., Gast, I. M., and Skinner, H. C., Readings in Educational Psychology, p. 57.
8. Watson, J. B., Psychology from the Standpoint of a Behaviorist, pp. 46-49.
9. Thorndike, E. L., Educational Psychology, Vol. I, p. 173.
10. Hullfish, H. G., Aspects of Thorndike's Psychology in Relation to Theory and Practice, p. 16.

It would thus seem highly probable that man is born with a multitudinous group of poorly integrated reflexes and with vast potentialities for the acquisition of conditioned reflexes. In so far as man can thus be said to possess an inherited stimulating and reacting equipment, in so far is he in possession of an automatic control of his organism. But such control is the direct response to some stimulus, which may or may not be subject to external control. All other forms of control are subject to direct control of the stimulus and to indirect control of the response. "Any direct mode of acting, either implicit or explicit in character, not belonging to man's heredity equipment, must be looked upon as an individually acquired or learned act."[11]

The unit of the nervous system is the neurone, which consists of a cell body with its axone and its dentrites. A neurone becomes functional when connected with other neurones through the synapses, across which the nervous impulse, resulting from stimulation, is conducted. Allport believes that the neurones are, "by their structure adapted to the collection, conduction and distribution of nervous impulses....the nature of the nerve impulse is not fully understood. It will probably be found eventually to be the propagation wave of chemical reaction or a local electrical effects involving changes in the polarization of the cell membrane." [12]

The nerve impulses are brought about by stimulating the sense organs or receptors. The excitement thus aroused in the receptor proceeds, in the form of nervous impulse, along a chain of neurones, afferent, central, efferent to the effector inducing a response. "No matter how minute the sense organ structure which is stimulated, the impulse there can travel to the central system and produce a response of the whole organism which is entirely out of

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11. Watson, J. B., Psychology from the Standpoint of a Behaviorist, p. 129.

12. Allport, F. H., Social Psychology, p. 18.

proportion to the actual energy applied at the sense organ." [13] "So remarkable are the central adjustments between our receptors and effectors that, except in unfamiliar situations, a given stimulus almost invariably evokes the biologically correct response." [14]

There appears to be little difference of opinion among psychologists concerning the nature of stimulus. Most would agree with Mursell that "a stimulus is any influence that brings out a response." [15] The influence may be the movement of man's own muscles and the secretion of the glands; it may be social expression, gestures, sounds and language, "language associated with desirable conduct may serve as stimuli for such behavior as they have been associated with." [16] It may be psycho-social involving the activity of the memory. "The chief sources of stimuli are, of course, of psycho-social environment." [17] Anything involving a situation which initiates a response, thought, feeling or action, and a neural connection or bond whereby the response is made possible is a stimulus.

There is a very close relation between the stimulus and the feeling accompanying the stimulus. "Words constantly associated with desirable ways of behaving come to stand for them and to stimulate an attitude and overt response like those frequently associated with them." [18] The word "attention" sounded in the ears of an old soldier, not only stimulates bodily posture and movements, which have been habitized with it, but also the attendant kinaesthetic feelings, attitudes and affective states. "The social environment is very largely responsible for the types of effective reaction aroused in the individual....certain associations

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13. Watson, J. B., Psychology from the Standpoint of a Behaviorist, p. 138.
14. Allport, F. H., Social Psychology, p. 18.
15. Mursell, J. L., The Stimulus-Response Relation. Psychological Review, 29:155, May:1922.
16. Waring, J. L., The Relation Between Language and Conduct Control, p. 5.
17. Bernard, L. L., Introduction to Social Psychology, p. 270.
18. Ibid, p. 12.

have been formed between groups of objects and our feelings in the past, by which the presentation of the objects to sense suggests the agreeable or disagreeable character of the past experience and thereby aroused a similar affective reaction. . . Affective reaction may also be aroused by ideational process and if an experience when it occurs is accompanied with a definite affective coloring either pleasant or unpleasant, the tendency is for images of that experience to involve the recurrence of the same affective coloring." [19]

These mental images and ideas become a stimulus to the degree that they are bound up in language symbols, or words, the meaning of which we know through action. "Many of our terms are suffused with emotional significances, "pleasant or unpleasant feelings." There are two ways in which language excites the emotions. By direct emotional association and through its power to represent symbolically objective situations." [20] "We may stimulate the emotions through the medium of ideas, and of imagery, and of thought." [21] "Language is a remarkably effective substitute for experience, as a stimulus, but the substitute approaches the reality in emotional effectiveness in proportion as the imagination responds, vitalizes and vividifies the skematic outline that the words at best only suggest." [22] According to Britian there are three classes of stimulus that may excite emotional responses, namely, object and objective situations; perception of emotional excitements in others; and the subjective excitement of emotions through ideas and images.

But one stimulus may release more than one response. The sight of a dog may cause one to run, feed it, muzzle it, etc. Consequently, the educator must always consider which response is most likely to appear on the incidence of

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19. Langifled, H. S., Consciousness and Motor Response. Psychological Review. 24:8, January:1917.
20. Britian, H. H., Function of the Emotions. Psychological Review, 33:39, January:1926.
21. Ibid, p. 39.
22. Woodworth, R. S., Dynamic Psychology of 1925, p. 122.

a given stimulus. Watson has outlined some findings that are valuable in determining such. These findings may be summarized as follows:

1. The response most likely to reappear is the one which was most recently called out by the stimulus.
2. When recency is not pertinent, the act which has been most frequently connected with the stimulus is the one most likely to be evoked.
3. The act called out is likely to be one which is most closely connected with the general setting of the situation as a whole.
4. The most important determiners are the situations which the individual has had to meet during the hours preceding the incident of the stimulus to which he must now react, and the amount of emotional tension these previous activities have aroused.
5. Temporary intra-organic factors tremendously influence our reactions.
6. The most important determiner is the life history of the individual, in the sense that his general and special training develop within him definite attitudes, trends, slants, patterns, etc.

While the above rules may prove to be of value in selecting the stimulus to secure a specific response, nevertheless, the prophetic relationship between the stimulus and the response depends on the degree to which such relationship has been established by experience. That is, the bond which ties the stimulus up to the response must be acquired from experience. "He hears me speak (S). The meaning of my words arise in his mind (R). If he had not in the past learned the meaning of these words, my voice would have struck in vain upon his ears. The meaning could arise in his mind only because in the past he had learned to associate thenceforth these meanings with these sounds. This is, his past experience has built up something

in his nervous system, in fact—such connections or bonds that when a particular sound is heard, its appropriate meaning arises as a thought in the mind. Each such language connection has to be learned, that is, built up by and in experience." [23]

Thorndike assures us in his Educational Psychology that such bonds not only (exist) between the stimulation arising from the concrete situation and the response thereto, but also from the stimulus arising from an abstract idea or ideal and the anticipated response thereto. "These bonds or connections in which the sensory situation is replaced by an abstract plan, and the immediate muscular response by a contemplated action, tried out on the level of thought only, will in the long run do more for satisfying human wants. Each secondary connection can do the work of thousands of gross behavior series, providing for situations before they are met, for elements of situation never encountered by themselves, and for groups of situations whose essential similarity the more animal like connections could never reveal. Futhermore, these tendencies to secondary, or "higher," connections may rise free from appetites of the single creature who exercises them and deal with the world, in the interest of all men. Work and play with ideas can be impersonal and ideal to an extent and to a degree that would never be attained by direct response to concrete situations themselves." [24]

Both the stimulus and the response, although tied together by bonds that have grown through experience, cannot be thought of as single, they are complex. The complexity of the stimulus, and the complexity of the bonds, and the complexity of the response take definite patterns or sets. Dunlap maintains that there are stimulus patterns, neural patterns, and action patterns. "Between the stimulus pattern and the action pattern there is a neural pat-

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23. Kilpatrich, W. H., Mind Set and Learning. Journal Education Method, 1:97, November:1921.

24. Thorndike, E. L., Educational Psychology, Vol. I, p. 307-308.

tern which is different for each response which differs in action pattern or in stimulus pattern, the action ultimately resulting must be dependent on the neural pattern....on this basis the ontogentic development of perception is understandable as building up reaction patterns and the eventually certain stimulus patterns come to produce more and more specific reaction patterns and these patterns take on progressively more useful forms so that the action and the perception involved in them become better and better adapted to the environment." [25] Thus we are enabled to see what we are prepared by previous experience to see through stimulus patterns, neural patterns and response patterns. That is, stimulus comes to us not singly but in the forms of patterns, words, sound of voices, facial expressions, bodily presence, etc., stimulating several nerves simultaneously and arousing neural patterns which are colored by feelings of agreeableness or disagreeableness. Such gives rise not to confused random movements, but to definite response patterns involving the functioning of muscles or glands or Thorndike's "anticipation action." In each case it is a pattern or "set" response. "Where such patterns are lacking new ones must be integrated or conditioned. Effective transformation and redirection from within 'through instruction' can operate only if acquired neural disposition or sets have been built up in considerable volume . . . . . as the result of previous trial and error or overt adjustment." [26] "This modification of behavior and the formation of acquired behavior patterns, to replace and elaborate previously acquired patterns, occur in two ways. In the first instance the inerbak organization of the protoplasm is itself modified as a result of functional contact with the environment . . this fact of cortical flexibility in the organism makes it possible to reorganize patterns in the neural protoplasm

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25. Dunlap, Knight, Theoretical Aspects of Psychology: Psychologies of 1925, p. 326.

26. Bernard, L. L., Instroduction to Social Psychology, p. 144.

with great ease and to an extent of complexity not appreciated before the rise of modern neurology and physiology. These changing neural patterns also produce modifications of overt behavior through their neural-mascular and neural glandular or efferent response. The net result of such modifiability is that the countless number of the new things we learn. . . .and of the new things we learn to do are added as acquired characteristics to the accomplishments, themselves partly acquired . . .The second way in which this modification of behavior occurs is more indirect. The reaction of the changing organism upon the environment constantly modifies the environment itself . .The modified environment reacts back upon the behavior organization and integration of the organism and produces changes in it."[27] It is in this latter method of formation of behavior patterns that the process of instruction becomes a potent factor in determining the neural and reaction patterns which form the basis for the controls of character. Upon this basis may be built, through instruction, realizations, sensings, attitudes, motives and standards.

Thus the stimulus neural response patterns are saved from developing an automatic human machine. A new factor enters in the formation of the bond that ties the stimulus to the response; namely, the selective process of providing the right stimulus to call out the desired response. This selective process may be left to chance formation—trial and error—or it may be capitalized through instruction and the willing collaboration of the student and the teacher. The teacher may so direct the stimulus as to condition the response of the student, and thus build up a bond involving stimulus and response tied together by the selective process of student and teacher through definite instruction; that is, a stimulus-selective response. The patterns developed by these selective processes have determinating value in the development and in the control of the individual's behavior.

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27. Carson, H., The Conditioned Response. Psychological Review, 32:315, July:1925.

The conditioned phases of these selective processes have been scientifically determined through extended studies of the conditioned reflex, the conditioned repose, the conditioned emotions and the conditioned memory.

Pavlov, the Russian Psychologist proved that by ringing a bell at the same time that meat was shown to a dog, the dog would come in time to respond with a flow of saliva to the sound of the bell even when the meat was not present. Here was an old response recurring through a stimulus not ordinarily biologically adequate. Twenty years of experimentation have established the reliability of the conditioned response.

Krasnogarski in Russia, Mateer and Burnham at Clark University and Watson at Johns Hopkins University, have shown that the conditioned reflex can be developed in children. Twitmeyer, at the University of Pennsyvania, by repeated experimentation has demonstrated that conditioned reflexes may be developed in adults as well as children. "During the adjustment of the apparatus for an earlier group of experiments with one subject (a) a decided kick of both legs was observed to follow the tap of the signal bell occuring without the usual blow of the hammer on the tendons. It was at first believed that the subject had merely voluntarily kicked out the legs, but upon being questioned he stated that although quite conscious of the movement as it was taking place, it had not been caused by a volitional effort, and further that the subjective feeling accompanying the movement was similar to the feeling of the movement following the blow on the tendons with the exception that he was quite conscious that the tendons had not been struck. The conditioning takes place in the central nervous system and not in the afferent and efferent neurones."[28]

On the basis of the findings of Twitmeyer we may expect that the emotional life is also subject to the laws of con-

28. Carson, H., The Conditioned Response. Psychological Review, 32:315, July:1925.

ditioning. This is precisely the conclusion to which Woodworth, at Columbia University, has arrived. "The conditioned reflex type of learning accounts for a host of likes and dislikes. Why does the adult feel disgust at the mere sight of a garbage pail or at the mere name of cod liver oil? Because these inoffensive visual and auditory stimuli have been associated or parred with odors or tastes that naturally arouse disgust." [29] This is confirmed by the experimentation of Watson and Jones in which a child who was afraid of nothing but a loud noise was conditioned to a fear of a white rat by the use of similar feeling objects. The same study showed that a child possessing such fears could be unconditioned of the related fears. "Obivously a large part of a child's training consists in rightly conditioning its affective responses." [30] "Every attitude and interest probably involve conditioned reflexes." [31]

Not only reflexes, responses, and emotional responses are capable of conditioning, but even the memory reflexes can be continued. Pavlov found that "the mere memory of the indirect stimulus can also bring about the response of the glands....the same is true with the child with candy ....every memory of a stimulus in the case of the child is highly specific and can be quickly brought into temporary associations with any activity whatever." [32] "In normal children the memory reflexes are formed as easily as the usual temporary associations. The memory is destroyed in the case of the child, not suddenly, but just as the simple conditioned reflexes are, thus the highly specific character of the memory reflexes, the quickness with which it is formed, its duration, its regular and gradual excitation." [33]

Conditioned emotional responses are exactly like other conditioned responses. "In general then it seems

29. Woodworth, R. S., Psychology, A Study of Mental Life, p. 303.
30. Burnham, W. H., The Normal Mind, p. 111.
31. Ibid, p. 145.
32. Burnham, W. H., The Normal Mind, pp. 93-94.
33. Ibid, p. 95.

safe to say that when an emotionally exciting object stimulates the subject simultaneously with one not emotionally exciting the latter may in time, often after one such joint stimulation, arouse the same emotional reaction as the former." [34]

Not merely the primitive emotions but apparently all affective reactions are easily conditioned by associated stimuli. This has been recently emphasized by Kanter through his emphasis on the universality of the affective responses and their complex relations with other forms of activity.

Humphries points out that "aesthetic emotions consist in associating the right stimulus with an artistic appreciation. . . . It is no mean part of a child's education when his affective responses become conditioned by good music and works of art—by the chimes in the church tower, classic paintings, the sunset, the ocean and the mountains." [35] "Emotional reconditioning bids fair to become as important to society as medicine." [36]

This conditioning and reconditioning depends on the stimulation of the neurones, or sets of neurone patterns; connecting different neural patterns and resulting in different efferent or reaction patterns. Thus neurone connections are at the basis of all continuing experiences whether action, thought or feelings. When the neurone connections are highly developed, the feelings are likely to be more refined; the thoughts are likely to be more orderly and logical; and the acts are likely to be more skillful and co-ordinated. The artist has developed a finer skill and greater appreciation of art; the sculptor has developed a finer skill and greater feeling of appreciation for statuary; the musician has developed a finer skill, a more orderly knowledge of technique and more refined feeling of appreciation for good music; likewise the cabinet maker for artistic furniture;

34. Ibid, p. 236.
35. Ibid, p. 111.
36. Watson, J. B., Psychology from the Standpoint of a Behaviorist, p. 236.

the flour miller for the quality of flour, the mechanic for machinery, etc., than the unlearned in these arts and skills possess. As Kepers, Child, Harrison and Detwiler have demonstrated, stimulation determines the growth and connections of neurones and the growth and connections of neurones form the determining basis of all life controls, whether physical, ideational or affective.

All feelings are dependent on the function of the neurones. The neurones, connected with the automatic nervous system—cranio-sacral and the sympathetic—are in functional antagonism. They operate in the same organs but with opposing reactions. For example; the sympathetic accelerates the heart beat but the cranial retards it. "It is evident that the two antagonistic mechanisms, the cranio-sacral and the sympathetic are allied with two groups of emotions having opposing qualities of feelings, pleasantness and unpleasantness, respectively . . There are several sources of pleasant affectivity, such as bodily exercise and habit, excitement of games, elation and mirth which possess no discoverable relation to the cranial sacred function, nor (with the exception of excitement and mirth) to the automatic activities of any sort. These pleasant states appear to be due to different impulses." [37]

It is generally conceded that the automatic mechanism for all emotions is of the same type. If this be true, whence comes the differentiation in the emotions and in their accompanying feelings? Experience makes it obvious that differentiation exists. We love and hate. Very different feelings accompany the specific emotion in each case. Allport offers an excellent explanation of such differentiation on a psychological basis. "We propose that the differentiating factors arises from stimulation of the propriceptors in the muscles, tendons and joints of the somatic part of the organism; and that afferent impulses from these somatic patterns or responses add to the automatic core of affectivity the characteristic sensory complexes by which one emotion

37. Allport, F. H., Social Psychology, p. 89.

is distinguished from another of the same affective class . . . As to the pleasant emotions—'feelings'—we may ascribe the differentiating factors to the habits of adjustment." [38]

If Allport's contention be correct, and we have no reason to discredit it, we have discovered a psychological and neurological basis for feeling reactions that play such a large part in conduct and character control. These feelings having their basis for functioning in the physiological and neurological mechanism, they become subject to the laws of conditioned reflexes and thus are ready instruments in the hand of the educator and may be capitalized in instruction. "The recent experimental studies serve to emphasize the importance of building up in every individual the right sort of reactions." [39]

Such desirable reactions may be determined and the appropriate stimuli presented to condition and call out the desired response. Thus it becomes possible to develop, to strengthen, and to build up the elements of character by directing the experiences that the child shall have. Directing the experiences so as to condition the responses or to directly evoke the response is the connotation of instruction used throughout this study. The whole of the child's education from his earliest years is largely the development of conditioned reflexes from the stimulation of the environment. Even the sight of food, which should be a directed experience for the child, arouses in the hungry individual salivary secretions and pleasurable movements or anticipatory movements of feeling. Pleasurable feelings and anticipatory movements soon come to be attached by the law of conditioned response to stimulus accompanying the feeling or to persons through whom the food is obtained. This transferred reaction of pleasure is the basis of the feeling tone that affects the learning process and conditions the attitude of the learner during the process of learning.

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38. Ibid, p. 91-92.
39. Skinner, C. E., Gast, I. M. and Skinner, H. C., Readings in Educational Psychology, p. 57.

This conditioning of affective processes has played a significant role in human behavior. Much of a child's training consists in rightly conditioning its affective responses. Speaking of the studies that have been conducted on emotional conditioning May writes, "yet we feel that character education has here a very important lead." [40]

The complexity of the social environment is a matter of simple observation. None will deny that the environment of 1929, is sufficiently varied to afford a great variety of stimuli. The possible responses are likewise varied for the individual. The feelings are also varied. There are probably hundreds of emotional feelings which contribute to the richness as well as the delicacy of social intercourse. Almost every emotional nuance represents a tendency to react in a highly specific fashion toward some other human being. The great complexity of social stimuli is sufficiently varied to give rise to forms of control.

We are daily receiving many stimulations that are left largely to the laws of chance, and that can be said to do little more than leave an impression on the neurone mechanism, an impression more or less disorganized but colored by previous feeling reactions; the crowded streets, the noise and din of factories, the roar of cars, the chatter of the flapper, etc. If such feeling-charged stimuli are repeated sufficiently and in the right associations they develop specific neurone patterns, and more or less definitely organized emotional-feeling-reactions. These reactions that take the form of a mind-set, or pattern ready response, we shall classify as realization, sensing, attitudes, motives and standards. *

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40. May, M. A., What Science Has to Offer to Character Education. Religious Education, 23:583, June:1928.

*These terms have been adopted from Dr. A. D. Yocum's control forms and may be found in his "Analysis of Education as Character Controls." pp. 1-25.

CHAPTER II

THE DIFFERENCE IN THE DIFFERENT FORMS OF CONTROL NECESSITATE DIFFERENT METHODS OF PROCEDURE.

THE CONTROL FORMS DEFINED.

A realization is a controlling feeling of reality brought about by the presence or recall of experiences. The repetition of experiences generates a feeling of familiarity with the experiences-stimuli. The feeling of familiarity gives rise to a feeling of reality. This feeling of reality becomes a controlling factor in behavior through the repetition and recall of experiences which react in two ways. On the one hand they tend to create emotional dispositions. The dispositions which are created by past experiences are to a large degree emotional dispositions and not directed mainly to the more ideational habits. "Most people are saints or sinners not because they count the cost but because they have acquired emotional predispositions to one or the other of two behavior sets." [1] On the other hand, the repetition and recall of experiences tend to break down the resistance of the synapses and thus render the reactions more harmonious, pleasing and controlling.

Sensing is the emotional readiness of mental-set. Thorndike has fairly established the belief in the readiness of the mental-set as one of the three fundamental laws of learning. "Any reaction whatever may be preceded by a state of readiness." [2] It is the ready condition of neurones to respond to stimulation. The phrase "mental set" has

1. Counts, G. S. and Chapman, J. C., Principles of Education, p. 138.
2. Gates, A. I., Psychology for Students of Education, p. 106.

come to have a recognized connotation in psychology. It's connotation is well expressed by Gates as a "preparatory reaction that depends upon a slight arousal of certain neurones which constitute an effective predisposition toward one kind of further activity rather than another....By means of preliminary instruction an individual may assume a mental-set favorable to thinking of the opposite of a series of words rather than the synonyms." [3] It has been shown in Chapter One that emotional qualities may be produced under specific conditions. By observing these conditions, in building up a readiness of mental-set, an emotional quality may be added. "Nearly every reaction is 'toned' to some extent by one feeling or the other, i. e. pleasantness or unpleasantness." [4] This condition of the neurones we shall designate as an emotional readiness of mental-set, or a sensing.

An attitude is an emotional mind-set-to-an-end permanent enough and strong enough to be a continuing behavior pattern which has been built out of experiences in characteristic emotional situations. As shown in Chapter One the emotional or feeling elements, in the situation, are reproduced with the experiences in the formation of a mind-set-to-an-end and come to form an important part of it. Voelker expresses the belief that an attitude is a mind-set in a certain direction which directs the power of selective attention. Thorndike states that "the mind-set of the person decides not only what he will do and think but also what he will be satisfied with and annoyed by." [5] The affective elements are admittedly stimulated and strengthened by experiences through the multiplication of neurone connections, the strengthening of the reflex arcs and the reduction of the resistance of the synapses. If the experiences have been carefully selected for their feeling values, these feelings may be reproduced under specific conditions as shown

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3. Ibid, p. 106.
4. Ibid, p. 102.
5. Thorndike, E. L., Educational Psychology; Briefer Course, p. 144.

in Chapter One. If the stimulated feelings are concentrated upon some thing or person they produce a continuous emotional tone to the mind-set-to-an-end. The stronger and more continuous the emotional tone the stronger the control of character. "An attitude . . is the set of the organism (muscular, neutral, emotional) toward the object or situation to which an adjustment is called for. When the adjustment is made the attitude disappears, except in so far as it is retained in memory or in the habitual set of the organism." [6]

A motive is a controlling feeling or inner persisting emotional drive that predisposes the individual to a course of action and that is strong enough to result in performing the action, whether the overt action occurs or does not occur. While a motive necessarily includes the emotional readiness of mental-set; involves the emotional disposition brought about by familiarity with experiences; and the emotional mind-set-to-an-end; it also possesses a persisting emotional drive that tends to result in action. This connotation of the word appears to be generally accepted by authoritative writers. The psychologists Baldwin and Stout are of the opinion that motives, include not only the ends of action but also all its influential conscious antecedents such as organism, vital sensations, emotional dispositions and the like. May believes that we must include in the term motive "all sorts of drives, urges, determining tendencies, desires, etc. It is evident that in order to get at the main problem the term motive must be used in its genetic sense to mean anything that moves an individual or that causes activity." [7]

A standard is an emotional behavior pattern which results in successive degrees of achievement. Behavior has been defined as "the process of responding to a stimulus by an activity that is normally useful to life." [8] It is commonly

6. Bernard, L. L., Introduction to Social Psychology, p. 246.
7. May, M. A., What are Human Motives Today? Religious Education, 18:70, April:1923.
8. Allport, F. L., Social Psychology, p. 117.

agreed that a pattern as used in Psychology, is the specific mechanism of the dentrites, neurones, synapses and reflex arcs that are functionally associated in the response of the organism to a definite stimulus. Thus a behavior pattern involves the neural mechanism and the process of responding to a stimulus by an activity that is normally useful. When the behavior pattern assumes an emotional tone, and we doubt if any behavior pattern can exist without some emotional tone, which produces a drive sufficiently strong to result in successive degrees of achievement, a standard exists. As thus defined a standard is different from a so-called ideal. The ideal frequently suggests unattainableness. The standard necessitates possible degrees of achievement. Unless the individual realizes that the next step in achievement is possible for him; is motivated by the wish to achieve and the will to persevere; and is reminded to continue trying to achieve, his efforts fall short of a standard.

THE PSYCHOLOGICAL BASIS OF EACH CONTROL REQUIRES ADDED SPECIFIC STIMULI TO PRODUCE THE DESIRED RESPONSE.

The psychological basis of a realization, as defined, is the feeling of reality brought about by the presence or recall of experiences. Both the presence and recall of experience necessitates the functional activity of the neurones and their interconnections. The repetition of this functional activity generates a feeling of familiarity with the experience. The familiarity with experience involves the process of recognition and recall. "Recognition and recall. . . .are both the result of stimulation. Recognition comes about by the action upon the sense organs of the thing recognized. Recall follows stimuli that do not emanate from the object recalled . . We may distinguish recognition and recall, though not definitely, in terms of the amount, duration and specificity of the stimuli that excites

them. Their difference lies in the setting:" [9] The stimuli may take any form as long as the experiences involved-reactions-become familiar. The familiarity giving rise to a feeling of reality, becomes controlling when the experiences-reactions-possess a familiar emotional tone. "Every idea (thought may be used as stimulus) that has any significant history of content acquires not only a conceptual content but the emotional is of greater moment and importance in the life of the individual." [10]

The psychological basis of a sensing, as defined, is the emotional readiness of mental-set. The readiness of mental-set has a neurological basis capable of responding to stimulation through the interconnection of the neurones. "Any thought, feeling, or action means a tendency to respond in a certain way to a certain situation. It involves a situation which initiates the response and a neural connection or bond whereby the response is made possible." [11] The feeling or emotional element is in the condition of the neurones during the functional activity. The explanation of the feelings is to be found in the connections of the neurones themselves. The conditions may be roughly expressed as a readiness to act or an unreadiness to act. It is the amount, duration, specificity, and the emotional tone, and not the form, of the stimulus that determine the reaction tendencies. If the stimulus is too weak it may fail to arouse neurone activity. If the stimulus is too strong it may result in other forms of control involving overt reactions. The stimulus should be just sufficiently strong to arouse the feelings and tendencies associated with the specific neurone activity without giving rise to continuous specific reactions. The possibility of such stimulation is evidenced by other forms of behavior.—"I think we shall

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9. Smith, Stevenson, Recognition and Recall. Psychological Review, 65:28, January, 1927.

10 Britian, H. H., Function of the Emotion. Psychological Review, 33:34, January, 1926.

11. Skinner, C. E., Gast, I. M. and Skinner, H. C., Reading in Educational Psychology, p. 47.

find that all too often our decisions are quite largely made before our intellects come very fully into play and that our intellectual processes perform the function largely of finding reasons to justify the already made decisions. In other words, our decisions have been made upon an emotional basis rather than upon an intellectual one. The control and direction of our lives lie here." [12]

It thus becomes evident that the neurological basis for a sensing and a realization are similar. But the processes involved in developing a sensing and in developing a realization are different. The difference evolves from the nature of the stimulus required to strengthen connections between specific or closely related neurones. While many specific stimulus may contribute to the development of a sensing, only stimulus that arouse neural associations, producing reactions that become familiar, contribute to the development of a realization. The difference in the specificity of the stimulus and the familiarity of the reaction necessitate methods of procedure most likely to bring about the desired connections of neurones, that will result in a feeling of reality or in the emotional readiness of a mental-set as the case may be. "Certain sensory neurones are by a conscious process-education-so connected with certain associative or motor neurones that when the sensory neurones are stimulated the nervous impulse is automatically directed into the connected system. The feeling, the idea, the attitude, the action desired is the result....upon the number and kind of connections in the nervous system depends the amount and quality of the education of each person." [13]

The psychological basis of an attitude, as defined, is the emotional mind-set-to-an-end. The mind-set-to-an-end is an acquired behavior pattern which has been built up out of experiences. "If every time the child is playing with his toys and accidently gets some desirable re-

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12. Williams, F. E., The Need for Emotional Control Through Education. Education Review, 24:41, January:1923.

13. Jones, A. J., Education and the Individual, p. 42.

sponse, mother smiles and says approvingly, right, he builds a meaning into that word which suggests to him a certain kind of response to the thing he manipulates whatever that may be. His notion of right includes a way of behaving . . When he hears the word right, he is ready to act in that specific way. In other words he has a mind-set-to-an-end . . a mind set toward a motor response as he hears that word right and in its new setting he anticipates satisfaction from his effort just because the word has already been used in satisfying experience. The affective mind-set toward a certain kind of motor response is strengthened when his anticipation comes true." [14] Such experiences acting as stimulus arouse specific neurones in definite relationship forming both a neural pattern and determining tendencies toward response patterns. "A special pattern has a characteristic course of movement." [15]

While a sensing, realization and attitude all depends on the functioning of the neural mechanism the attitude involves a further process. It differs from the former two in requiring the added process of centering the emotional-mind-set upon a definite end. The stimuli employed to develop a sensing and to develop a realization may function in developing an attitude but the attitude requires an added stimulus that will center the mind-set upon reaction patterns, commonly known as objects or persons.

The psychological basis of a motive, as defined, is the emotional drive that predisposes the individual to a course of action and is strong enough to result in action, whether the overt action occurs or does not occur. Such necessitates the functioning of the neurones, perhaps the same neurones as were employed in developing a sensing, a realization and an attitude. However, the motive differs from the three other forms of control in actual response. Motor neurones must become functional if the motive is to control. This requires an added stimulus sufficient to produce the re-

14. Waring, L. L., The Stimuli-Response. Psychological Review, 29:6; May:1922.
15. Woodworth, R. S., Psychology: A Study of Mental Life, p. 205.

sponse. Such demands specific stimulus of greater intensity, duration and emotional tone so that the action tends to be continuing. The emotional tone of the stimulus may be a determining factor in the intensity of the stimulus and the duration of the response.

The psychological basis of a standard, as defined, is the emotional behavior patterns which result in successive degrees of achievement. Lying at the basis of the behavior patterns are the neurone mechanisms which have been brought about by, and are susceptible to, stimulation. When stimulated by any form of stimuli, there is a tendency on the other hand, "to develop habitual distinctive patterns of motor discharge." [16] On the other hand, there is a tendency to change both the selectiveness of the neurone reaction and the neurones themselves. In the formation of a standard such reactions are useful because the student does not exactly repeat. He may appear to do the same thing, but the neurones of his brain do not, trial by trial, repeat exactly their previous performance.

Standards have much in common with the other forms of control but differ from all the other control forms in demanding that the neural activity result in successive degrees of achievement. If the stimuli employed to develop all the other forms of control were combined they would not necessarily result in degrees of achievement. There must be some specific stimulus that will not only stimulate the different neurones to muscular response but that will also continue the action until it results in a degree of achievement. Standards differ from all other control forms and this difference necessitates a different method of stimulation and a different procedure of development.

THE REQUIRED ADDED STIMULI MAY BE PROVIDED BY INSTRUCTION

Instruction consists in directing, selecting and adjusting stimulus so as to meet the needs, interests and capaci-

16. Marston, W. M., Primary Emotions. Psychological Review, 34:340, September:1927.

ties of the individual. Stimulus may be derived from the organism itself or from the environment. "Stimuli from the environment are of two kinds—namely, physical objects and suggested objects. The suggested object is not subject to measurement as the physical object is; nevertheless, it is quite as effective in functioning as a stimulus to behavior." [17] The suggested object may take the form of thought, feeling, or action. These may be symbolized by the spoken word which is the ready servant of instruction. "The spoken word has a more profound effect upon the human organism than is commonly recognized. It approaches an immediate reflex and is remarkedly thorough and far reaching....A profound integration exists between the afferent mechanism for receiving language stimuli and the entire reaction system of the body....The same general organism of neurones underlies the response to all language suggestion, and gives to the social environment a possibility of the most intricate control of the individual through the spoken word." [18]

Since the stimulation of the neurones is the only method of producing a response, and since the stimulation determines what neurones will function, the differentiation of the five control forms must be recognized in the stimulation used in the process of instruction. The amount, duration, specificity and emotional tone of the stimulus may be selected, directed and adapted in instruction. If the stimulus has been formerly associated with a definite form of behavior it tends to reproduce like behavior. "Language associated with desirable conduct....may serve as stimuli for such behavior as they have been associated with. They may serve as centers about which the child organizes his experiences until they gradually form generalized concepts which he can use as criteria for evaluating possible ways of behaving and for deciding what to do and when to do it." [19]

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17. Hullfish, H. F., Aspects of Thorndike's Psychology, p. 94.
18. Allport, F. L., Social Psychology, p. 244.
19. Allport, F. L., Social Psychology, p. 244.

After a lengthy discussion, of the power of spoken language in bodily control and the influence of suggestion through words in building up attitudes and controlling the same, Allport concludes: "In every day life attitudes are built up in a similar fashion. We talk over with our friends the feasibility of some civic process or merits of the new minister, and quite without knowing it, we become set to react in accordance with this discussion when occasion arises. We accept the words of "an expert" on any subject and repeat them to our friends as spontaneously as if they were our own. A suggestion from a friend regarding our appearance, manner, or habits may determine in us a fixed attitude in the direction suggested." [20] "Attitudes are the result of some stimulus from without furnished usually by some teacher, parent, or friend." [21] It is thus admitted that instruction may select, direct and adjust experience in the form of language stimuli.

Instruction is effective in developing character controls through the linkage or bond that it makes possible between the stimulus used and the response sought. "When a given stimulus arouses a certain response the linkage between that stimulus and the response is improved (strengthened) by the exercise thus obtained." [22] However, the strengthening of this linkage may be left to incidental selections, or guided by instruction. Counts and Chapman, after a lucid discussion of the value of incidental and formal instruction concludes: "It is perhaps not too much to say that every analytical study of the process of learning in such skill as reading, spelling, arithmetic, algebra, etc. makes the educator less inclined to reply on incidental methods." [23] If such be true of such formal studies it is probable that it is true in the field of ethics, morals and religion.

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20. Ibid, p. 244.
21. Benson, E. F., Attitude of the Learner. American Educational Digest, 45:300, March:1926.
22. Counts, G. S. and Chapman, J. C., Principles of Education, p. 390
23. Counts, G. S. and Chapman, J. C., Principles of Education, p. 546

The function of instruction being to select, direct and adopt experiences so as to provide stimuli to arouse desired reactions and to produce desired response, it possesses means of selecting experiences as stimuli, which will produce familiar reactions and thereby develop a realization. If this process of selection, stimulation and response be continued sufficiently it tends to break down the resistance of the synapses and renders the reactions more harmonious and pleasing, producing a feeling of familiarity toward the stimuli which evokes a feeling of reality because of the familiarity of the experiences-stimuli—that produced the reaction.

An attitude requires a stimulus adequate to produce an emotional mind-set-to-an-end. It has already been shown that instruction may provide emotionally toned stimulus, and is capable of producing a metal-set in developing a sensing. It remains for instruction to select and direct further stimuli so as to center the mind-set upon some end. Since attitudes are built up—they exist in all people—they must be a result of experiences. It lies within the power of instruction to take the otherwise chance experiences and direct the form of stimulus that will arouse the desired reactions. "Early training is on of the most significant sources of attitudes that will have determining influences on one's behavior." [24] Through training, attitudes are developed in both children and adults. For example military men do not begin developing the soldier's attitude toward discipline by appealing to his rational powers. Instead they require him to go through that which seems to him purely perfunctory reactions in response to specific stimuli. This in time gives him the desired attitude in spite of intellectual rebellion. The soldier's life is one of stimulation from selected, directed and adjusted experiences—very definite instruction. Thus the facts of common observation corroborate our contention that the

24. Bagley, W. C. and Keith, J. A. H., An Introduction to Teaching, p. 128.

specific added stimuli necessary to develop an attitude may be provided by instruction.

The stimulus required to develop a motive must be sufficient to bring about definite action, even if overt action does not occur. Whether stimulus shall but arouse a neural action or if it shall result in overt action depends on the specifity, duration and the intensity of the stimulus, any stimulus if sufficiently intense and of sufficient duration will give rise to muscular or glandular reactions. The stimuli used to produce a sensing, a realization, an attitude may be used by selection, organization and intensification, in producing a motive. The differentiation lies in the selection, organization, duration and intensity of the stimulus, other things being equal. Stimulus is the servant of instruction. Therefore it is possible to develop a motive by means of instruction through the selection, organization and direction of emotionally toned stimulus.

A standard involves as its prerequisite, sensings, realisations, attitudes and motives. If such do not exist, they must be developed. To these must be added stimuli sufficient for the repose to issue in successive degree of achievement. The stimuli may continue until the reaction has been through, satisfying and a stepping stone to further action. This produces a kind of motivated attitude rather than habitual modes of response, which issues in degree of achievement. Since the action necessary to a motive, may be provided through stimulation by instruction, a continuation of that action is also possible. The next step in achievement becomes possible to one as he sees others have succeeded and that he has taken similar steps. Such procedure is most adequately accomplished through stimulation which is most efficiently provided through instruction.

ADDED STIMULI REQUIRE DIFFERENT METHODS OF PROCEDURE.

The educator's first contact with the child reveals many tendencies. Most of these have been developed by

chance associations. Mental-sets, attitudes, etc., are in the process of formation. Some may need to be developed, others may need to be sublimated, still others may need to be eliminated. These have been built upon the basis of unlearned tendencies. "They are the starting point of all education....The aim of education is to perpetuate some of them, to eliminate some, to modify some and redirect others. They are perpetuated by providing the stimuli adequate to arouse them and by associating satisfaction with their action. They are eliminated by withholding these stimuli so that they abort through disuse, or by associating discomfort with their action. They are redirected by substituting....another response instead of the undesired original one, or by attaching the response to another situation in connection with which it works less or no harm, or even positive good....The emotional element rather than the cognitive and conative elements play the leading role in the perpetuation, the elimination and the redirection of the unlearned tendencies." [25] Hauser has generalized and condensed this principle. "Education resolves itself into furnishing individuals with appropriate thought stimuli, as far as such stimuli can be controlled, and in counteracting harmful stimuli found in the environment." [26]

If the above admitted principles were applied to the development of a sensing it would be in accord with the procedure used in this study. Namely, to analyze a desired sensing into its component elements. Such will reveal many of the associations involved. If negative factors are involved these should be eliminated by stimuli from counteracting experiences. For example: if a sense of honesty were desired, and the student showed indication of idleness, laziness, desire for wrong satisfaction, wrong interpretation of society, lack of confidence in standards, domestic needs, etc., these conditions might be removed by counteracting,

25. Thorndike, E. L., Educational Psychology Shorter Course, Vol. 1, pp. 2-4.

26. Hauser, C. A., Latent Religious Resources in Public Education, p. 37.

through encouraging industry, providing employment, providing legitimate satisfaction, giving a right interpretation, validity of the old standards and providing temporary revalidity of the old standards, and providing temporary relief. Thus, causes for dishonesty would be eliminated and the neural associations, according to Thorndike, would abort through disuse, leaving the neural associations of honesty more ready to function. Besides, the student might be encouraged and stimulated by practicing the positive elements of honesty. In both cases the individual would need to be directed in discriminating between the finer feelings connected with honesty and dishonesty. Such procedure provides stimuli necessary to develop an emotional readiness of mental-set.

The repetition and recall involved in both a sensing and a realization are dependent on neurone connections. The stimuli required to develop a sensing, might be added to indefinitely but fail to develop a realization, unless perchance the stimuli should happen to arouse emotionally toned reaction which become familiar. It is the familiarity that gives rise to the feeling of reality. The emotional tone of the experience is essential. Starbuck writes: "Material should have an emotional tone....Those who burst the doors of our feelings use the warm and rich intimacy of lower sense imagery and its connected emotion-patterns." [27] Thus it is evident that a different type of stimuli is necessary to develop a realization from the stimuli required to develop a sensing. The difference in the stimuli, from the standpoint of adequacy and economy in instruction, requires a different method of procedure to develop a realization.

It may be that the individual has had no emotional experiences that may be utilized as stimuli to arouse familiar reactions, in which case the desired experiences may be provided by imagination. "There is something more effective than seeing with the imaginative eye, it is the condition in

27. Starbuck, E., A Guide to Literature for Character Training, p. 15.

which we imaginatively feel a situation with more or less the whole personality....We are called upon to use our second best, namely, the technique of putting a person imaginatively into the situation..., by inducing an imagined experience." [28]

This basic experience may be provided through either imagination or imitation. Imitation of selected stimuli develops familiarity with the stimuli, the repetition of the familiarity intensifies the feeling of reality, that is, develops a realization. Both the nature of the realization and the stimuli required to develop it necessitate, from the standpoint of adequacy and economy of instruction, a different method of procedure.

An attitude requires both a sensing and a realization as prerequisites to its development. It differs from both a sensing and a realization in the direction given to the mind-set, in centering the mind-set on a specific end; that is, cause, thing, or person. If the stimuli used to develop a realization and a sensing were increased indefinitely they would not cause the readiness of the mind-set to be centered on some end. Likewise, if the stimuli used to develop a realization were increased indefinitely, it would but intensify the feeling of reality. The attitude requires a different sort of stimuli which may be most efficiently and economically presented by the use of a method of procedure which will select, direct and adapt experiences so as to centre the neural reactions upon useful ideas and emotionalize experiences not adequately felt. For example: One might possess a sense of reverence but remain quite irreverent toward the Mohammedan shrine at Mecca, or the shrine of Saint Ann in Quebec, or the Christian Church, or God. In every case the sense of reverence must be definitely centered upon a specific object and if the attitude becomes controlling the ideas concerning this object need to be emotionalized. The required added stimuli may be, from the standpoint of ad-

28. Overstreet, H. A., Influencing Human Behavior, p. 65.

equacy and economy in instruction, more economically provided by a different method of procedure to develop an attitude.

The motive is different from a sensing, a realization or an attitude in that is predisposes the person to some definite course of action and is sufficiently strong to produce action. The methods used to produce a sensing and a realization could not issue in action without transforming the sensing or the realization into something quite different. If the method used to produce an attitude were continued at length it would not necessarily produce action for it is void of motivation to action. Motivation to action requires a different stimuli. For example: one might develop an attitude of reverence for law and order, but if the stimuli used continued to be emotionalized and centered upon law and order indefinitely, the attitude would become stronger but the person holding the attitude would not necessarily act reverently toward law and order. The attitude might force him to admit that the stop lights should be respected and obeyed but if no one were in sight it might require very different stimuli, such as self-respect, possibility of a hidden policeman and the disgrace connected with arrest, desire to place a right example before wife and family, etc., to motivate him to obey the stop lights. The stimulation must be strong enough to result in action if it is effective in developing a motive. Thus both the difference in the nature of the motive and the difference in the kind of stimuli required to develop a motive necessitate, from the standpoint of adequacy and economy in instruction, a different method of procedure to develop a motive.

The standard differs from the four other forms of control in that it results in successive degrees of achievement. None of the former methods of procedure provide for this condition. It requires a different stimuli. Even the stimuli used in producing a motive is not adequate, for one might be motivated to action and such action might result in habitual mechanical exercise but not in successive

degrees of achievement. For example: one might be motivated sufficiently to participate in worship in the church but it requires a stimuli that will convince the person that the next step is possible to achieve, and that will produce a wish to achieve and a will to preserve, before he would direct the worship. Thus both the difference in the nature of the standard, and the difference in the required stimuli necessitate, from the standpoint of adequacy and economy in instruction, a different method of procedure to develop a standard.

CHAPTER III.

PROCEDURES DEFINED, ILLUSTRATED AND APPLIED IN THE FIELD OF RELIGIOUS EDUCATION

COMPLEX OF REVERENCE

With Contributory Factors to be employed in Methods of Procedure.

AN OUTLINE

I AWE

- A Wonder.
- B Authority.
- C Humility.

II DEPENDENCE

- A Reliance.
- B Gratitude.
- C Responsibility.

III RESPECT

- A Honor.
- B Esteem.
- C Contemplation of worth.

IV TRUST

- A Belief in His dependableness.
- B Confidence in His love.
- C Assurance of His personal goodness.

V LOVE

- A Admiration of His character.
- B Aspiration for His fellowship and favor.
- C Opportunities of friendship with God.

D Obligation as the issue of privilege.
E Consecrated devotion—worship.
F Self-surrender of the person to the one worshiped.
H Realization of opportunities for service.
I Realization that vital service involves sacrifical loyalty.

COMPLEX OF REVERENCE

With Contributory Factors to be employed in Methods of Procedure.

AWE .... Finding the interpretation of the universe in its purpose, power and beauty as the expression of God's goodness and love.

A. WONDER, a tendency to approach and continue to contemplate the admired object.

1. CURIOSITY, an impulse to approach and examine the unfamiliar.

a. Inquiry into:

(1) Nature, growing life.
(2) Personality, mystery of.
(3) God expressed in nature, history and personality.

b. Knowledge of:

(1) Nature, how much is unknown.
(2) Personality, less known than nature.
(3) God, His revelation of himself is a mystery.

c. Self respect in the presence of:

(1) Nature, as we come to know it, power is released.
(2) Personality, as we come to know it, friendship is created.

(3) God, as we come to know Him, self-mastery is generated.

d. Courage to:

(1) Examine the value of these powers.
(2) Appreciate the nature of these powers.
(3) Accept the authority of these powers.

2. ADMIRATION, sense of personal power as the creator of the subject admired.

a. Appreciation of greatness or excellency.

(1) Majesty of His perfection.
(2) Purity of His goodness.
(3) Sincerity of His truthfulness.
(4) Unchangeableness of His fidelity.

b. Sense of dignity.

(1) Mastery of His powers.
(2) Composure in His functioning.
(3) Poise of His character.

c. Adoration of His powers.

(1) Infinite understanding.
(2) Depths of sympathy.
(3) Sacrificial love.

d. Willingness to sacrifice to realize his attributes.

(1) Truth, veracity and faithfulness.
(2) Love, mercy and goodness.

B. AUTHORITY, respect as a moral obligation commended by conscience.

1. TYPES OF AUTHORITY

a. Law as the legalized will of society, traditions and customs.
b. Reason as measure of truth, judgment and facts.
c. Conscience as perfect trust in the good of approvals.
d. God as the source, support and end of life.

2. JUSTIFIED BY GOODNESS in which the love of self becomes identified with the love of others.
   a. Happiness as the satisfaction of lawful desires.
      (1) Appreciation of the power of possession.
      (2) Recognition of the right of others.
      (3) Conforming to personal ideals of right.
   b. Virtue as Right Actions.
      (1) Noble actions producing good to self and others.
      (2) Right attitude transforming duties into privileges.
      (3) Lovable friends, reflecting the good desired.
      (4) Mutual confidence and co-operation.
   c. Self-sacrifice expressing itself in self-assertion.
      (1) Wisdom as insight into the good and the means thereof.
      (2) Benevolence revealed in purposive actions, "doing good."
      (3) Justice as distributing good impartially.
3. SUPPORTED BY POWER, as a capacity for control.
   a. Enacting laws.
      (1) Natural.
      (2) Moral.
      (3) Spiritual.
   b. Enforcing laws.
      (1) Natural.
      (2) Moral.
      (3) Spiritual.
   c. Controlling through laws.
      (1) Free from external force.
      (2) An imperative demand in human nature.
      (3) Peremptory command for the individual to himself.

C. HUMILITY, as laying aside one's dignity in the presence of a opportunity.

1. REALIZATION OF FREEDOM FROM SELF SUFFICIENCY.

a. Realization that present knowledge is incomplete.
b. Attitude of teachableness, willingness to learn.
c. Sense of the value of increased knowledge or power.

2. FREEDOM FROM VANITY.

a. Freedom from a sense of arrogance toward others.
b. Freedom from an attitude of superiority towards equals.
c. Freedom from ambition to be greatest.
d. Sense of pride in achievement.

3. WILLINGNESS TO SERVE

a. According to the demands of existing needs.
b. According to the realization of self-sacrifice.

4. SENSE OF SUBMISSION

a. Sense of veneration for the power or person.
b. Attitude of worship.
c. Attitude of prayerfulness.
d. Sense of willingness to sacrifice personal rights to the interests of the rights of others.

5. COURAGE OF CONVICTIONS.

a. Realization that we have definite convictions.
b. Realization that the most valuable in life has been the result of the achievements of men with courage of convictions.
c. Sense of self respect.
d. Sense of personal responsibility.

e. Attitude of bravery.
f. Attitude of trustfulness.
g. Desire for self-assertion balanced by self-sacrifice.
h. Standard of perseverance.

II. DEPENDENCE, as a sense of superior ability to satisfy personal needs.

A. RELIANCE, as confidence on which one is ready to act.

1. CONFIDENCE, as an Intellectual basis of Assurance.

a. Uniformity of the laws of nature.
b. Sense of certainty of the moral order.
c. Realization of the truthfulness of His statements.
d. Worthiness of His person.

2. TRUST, as Practical Reaction of the Mind.

a. Sense of His integrity.
b. Sense of His reliableness.
c. Realization of His kindness.
d. Realization of His friendship.
e. Standard of His fidelity in fulfilling promises.

3. HOPE OF SATISFACTION.

a. Physical needs.
(1) Set of physical likes.
(2) Set of aversions, dislikes.
b. Social needs.
(1) Approval of individual friends.
(2) Participation in activities of congenial groups.
c. Inner spiritual needs.
(1) An inner sanction of conscience.
(2) Outer approval by the ONE on whom we depend.

B. GRATITUDE, as a sense of appreciation awakened by favors received.

1. SENSE OF APPRECIATION FOR BENEFITS RECEIVED.

a. Realization of the motive that prompted the the giver.
b. Sorrow for any loss or sacrifice sustained by the giver.
c. A reverent acknowledgment of indebtedness.

2. EAGERNESS TO REQUITE THE GIVER.

a. Attitude of self-respect.
b. Motive to free self from sense of obligation.
c. Willingness to make equal returns.
(1) For the efforts made by the benefactor.
(2) For the service rendered to the beneficiary.
d. Attitude of devotion to the spirit of self-sacrifice.

3. SENSE OF THE SUPERIORITY OF THE GIVER.

a. Realization of His initiative in every good gift.
b. Sense of His ability to confer favors.
c. Realization of the value of the service rendered.
(1) Value to others.
(2) Value to self.
d. Realization of His power to do for us.
e. Sense of His sacrificial activity in life.
f. Realization of His love in spite of His superiority.

C. RESPONSIBILITY, as a sense of liability, for actions and trusts to a superior power or person.

1. SILF-SACRIFICE FOR THE WELFARE OF OTHERS AND FOR CHERISHED IDEALS.

a. The good for the highest good.

b. Possessions for friendships.
c. Reputation for a good conscience.
d. Life for freedom and honor of country.

2. SELF-ASSERTION, for some approved end in which the welfare of all is involved.

a. Sense of individual rights.
b. Realization of social ideals.
c. Realization of humanitarian interests.

3. ANSWERABLE FOR BEHAVIOR TOWARD:

a. SELF.

(1) The preservation of life's values.
(2) Sense of self respect.
(3) Desire for self-control.
(4) Effort to maintain a good conscience.

b. SOCIETY.

(1) As a moral agent for conduct.
(2) Sense of fidelity to duty.
(3) Way in which we fulfill our trusts.

c. GOD.

(1) Realization of "Will to Believe."
(2) Why we respond to convictions.
(3) Attitude held toward the highest.
(4) Enthroning Him as the center of life's activities.

III. RESPECT, as a true regard for the value of personalities or sacred things.

A. HONOR, as a sense of approval, inspired by a feeling of merit.

1. SOCIAL SANCTION, as approval by public opinion.

a. A realization that behavior does not involve license.

b. Realization that promises are based upon verasity.

c. Realization that success is an issue of investment.

2. MORAL SANCTION, a sense of approval from the moral order.

a. Sense of truthfulness as necessary to a good conscience.

b. A sense of the necessity for personal purity of life.

c. A desire to realize the highest righteousness.

3. INNER SANCTION, a sense of approval from the spiritual order.

a. Realization of the desirableness of God's approval.

(1) Reproval if duty is neglected.
(2) Constant struggle in the achievement of ideals.
(3) Sense of the personal presence of God.
(4) Realization of the need of sacrifice.
(5) Confidence in God.
(6) Hope of Immortality.

B. ESTEEM, a feeling of high regard for His useful ness and acts.

1. SENSE OF APPRECIATION OF HIS NATURE.

a. Realization of His superiority.
b. Realization of His goodness.
c. Sense of the sacrificial love expressed by Him.
d. Sense of the inherent demands of His nature.
e. Sense of the equity of His nature.

2. SENSE OF INDIVIDUAL WORTH.

a. Realization of His dependableness.
b. His harmony consistent with the fullest self-realization.
c. Realization of His co-operation in achievement.
d. Realization that this sense of worth satisfied the greatest need of human life.

3. SENSE OF DIGNITY.

a. Sense of nobleness.
b. Sense of Superiority.
c. Sense of self-control through poise and balanced judgment.
d. Sense of personal respect.

Throughout this section the personal element might be rendered impersonal and as such would apply to respect for the Laws, Bible, Church, etc.

C. CONTEMPLATION OF WORTH IN THE ORDER OF THINGS.

1. OBSERVATION OF HIS QUALITIES AND ACTS.

a. Sense of His faithfulness to His promises.
b. Realization of His love.
   (1) Mercy.
   (2) Goodness.
c. Sense of His truthfulness.
   (1) Veracity.
   (2) Faithfulness.
d. Sense of His Holiness.
   (1) Justice.
   (2) Righteousness.

2. VALUATION OF HIS QUALITIES AND ACTS.

a. Motivated by moral duties instead of public opinion.

b. Motivated by sacrificial love.
c. Use of a single standard.
d. Admits of consequential rewards and punishments.
e. Conformity to the laws of nature.
f. Perfection of His nature.

3. COMPARISON BETWEEN OUR ACTS AND QUALITIES AND HIS.

a. Double vs, single standards.
b. Control of public opinion vs, moral code; selfishness vs, sacrificial love.
c. Discord vs, harmony with the laws of life.
d. Imperfection vs, perfection.
e. Sinfulness vs, holiness.

IV. TRUST.

A. BELIEF IN HIS DEPENDABLENESS.

1. REALIZATION OF GOD AS CREATOR THROUGH THE LAWS OF LIFE.

a. World, planetary system, etc.
b. Life in all its varied forms.
c. The human race.

2. SENSE OF HIS UNCHANGING RELATION TOWARD HIS CREATION.

a. Laws of life and their unchanging function.
b. Laws of the material world and their relentlessness if violated.
c. Laws of the inner sanction of the spiritual life, and their reactions when violated.

3. SENSE OF THE FUNCTION OF GOD IN HISTORY.

a. Witness of the Old Testament.
b. Witness of the New Testament.
c. Witness of the Christian Church.
d. Survey of progress of truth, knowledge and Christianity.

4. REALIZATION OF HIS PRESENCE IN EXPERIENCE.

   a. In the tender years of childhood.
   b. Amidst the stern realities of life.
   c. During the hours of sorrow and sadness.
   d. In the time of worship and prayer.

5. HABIT OF DEPENDING ON GOD.

   a. For material needs.
   b. For guidance.
   c. For satisfaction of Life's deepest needs.

B. CONFIDENCE IN HIS LOVE.

1. Realization that God's love is expressed through parents and through our most trusted friends.
2. A sensing of the love of parents and friends through the modes of expressing their affections.
   a. Anxiety if we are in danger.
   b. Sorrow if we suffer loss.
   c. Joy when we prosper.
   d. Gratitude to the person who favors us.
   e. Patience, forebearance, forgiveness, kindness, etc.
3. Imitation of the love of parents and friends.
4. Realization if we fail to express this love others will be disappointed in us.
5. Habit of expressing love.
   a. Worship.
   b. Communion.
   c. Prayer.
6. Habit of overlooking the faults of loved ones.
7. Habit of transferring the above affections to God.
8. Realization that His love, if practiced, is the greatest conquering force in the world.

C. ASSURANCE OF HIS PERSONAL GOODNESS.

1. REALIZATION THAT EVIL IS HUMANLY AVOIDABLE.

   a. Evil is not an inherent factor in the natural world.
   b. Realization that evil is an outcome of moral choice, and that choice is an individual matter.
   c. Realization that temptation is ineffective when one is conscious of the presence of His personal Goodness.

2. REALIZATION THAT THE GOODNESS OF GOD IS EXPRESSED.

   a. Nature reveals not evil but beauty, perfection, purity, etc.
   b. Human life, apart from choice of evil, is a demonstration of innocency, purity, goodness and love.
   c. Christ lived a life of goodness, justice, purity and love.

3. PRACTICAL RESTING OF THE MIND UPON THE—

   a. Integrity of God's person.
   b. Kindness of His nature.
   c. Friendship of His spirit.
   d. Promises of His word.

4. HABIT OF LOOKING FOR—

   a. Beautiful in nature.
   b. Goodness in others.
   c. Happiness and excellence of human life.
   d. Joy in the life of Jesus, "who for the joy set before him endured the cross."

5. ABIDING IN THE REALITY OF HIS PRESENCE.

   a. Belief in His reality.
   b. Realization of His presence through meditation.
   c. Habit of converse with Him through prayer.
   d. Habitual practice of His will through obedience.
   e. Realization of His affections through love.
   f. Realization of the immediateness through worship.

6. REALIZATION OF THE MEANING OF HIS PROMISES AND TEACHING.

   a. In the satisfaction of human needs.
   b. In the provisions for the satisfaction of soul craving.
   c. In providing comfort for critical experiences and times.
   d. In assurance of immortality.

7. REALIZATION OF THE MANIFESTATION OF HIS PRESENCE.

   a. Through Biblical characters.
   b. Through Christian leaders.
   c. Through life, love and sacrifice of Jesus.
   d. Through events of history and missionary movements.
   e. Through personal experience of others and self.

8. SENSE OF HIS PURPOSES FOR THE INDIVIDUAL LIFE.

   a. Realization that life is not a chance but according to plan.
   b. Realization that opportunities open doors to larger life.
   c. Realization that duty well discharged is reliving the life of Jesus.

9. STANDARD OF EXPRESSING GOD IN SOCIAL AND RECREATIONAL LIFE.

V. LOVE, as a strong and absorbing affection for, and attraction toward a person or object.

A. ADMIRATION FOR HIS CHARACTER.

1. Sense of His values.
   a. The authority of His word. "He speaks with authority."
   b. Magnetism of His personality. "I will draw all men unto."
   c. Inspiration of His love. "God so loved that He gave."
2. Sense of His optimism.
   a. Believed in human nature in spite of cruel treatment.
   b. Man created in God's image and retained capacity for God.
   c. Abiding confidence in God.
3. Sense of enthusiasm.
   a. Fervor of mind.
   b. Ardency of spirit.
   c. Exaltation of personality.
4. Realization of His humility.
   a. Willingness to learn, free from vanity and ambition.
   b. Willing to serve, true estimate of His powers and worth.
   c. Willingness to make Himself of no reputation to meet the needs of humanity.
5. Realization of His courage.
   a. Willingness to estrange the hearts of friends for truth.
   b. Willingness to lose caste for the sake of truth.

c. Willingness to perform His duty even when oppressed.

6. Sense of His holiness.

a. Freedom from sin.
b. Freedom from any guilt of conscience.
c. Sinlessness explains His joyfulness.

B. ASPIRATION FOR HIS FELLOWSHIP AND FAVOR.

1. Realization that fellowship rests upon the principles of friendship, and that the Divine friendship is the perfected realization of the laws of our highest human friendships.

2. Meaning of true friendship.

a. Liking where justice is carried to the point of kindliness and courtesy.
b. Community of interests.
(1) Sympathy for the highest aims and aspirations.
(2) Love of truth and right more than friendship.
c. Mutual trust.
(1) Purity and sincerity.
(2) Humility and selflessness.
d. Mutual self-giving.
(1) Placing the interests and desires of friends first.
(2) Willingness to overlook faults and deficiencies.

C. OPPORTUNITIES OF FRIENDSHIP WITH GOD.

1. Going about doing good in the spirit of Jesus.
2. Co-operation in the extension of the Kingdom of Heaven.

a. Through church work.
b. Through Missionary activity.
c. Through social service.

3. Participation in church services.

a. Worship, including prayers, meditations, praise, etc.
b. Communion through prayer, baptism, Lord's supper, etc.

D. OBLIGATIONS AS THE ISSUE OF PRIVILEGES.

1. Realization that friendships cannot exist apart from mutual giving, if one takes and gives not, friendship ceases.
2. Golden rule.

E. CONSECRATED DEVOTION—WORSHIP.

1. Sense of the presence of Jesus.

a. Realization of the sympathy of Jesus.
(1) For the suffering and needy of His day.
(2) For the suffering and needy of today.
b. Adoration of the moral and spiritual perfection of Jesus.
c. Habit of striving to live the laws of Jesus, i. e., Love.

2. Sense of spiritual relation to Jesus.

a. Aspiration to rise toward the ideal, as found in Jesus.
(1) Through music, scripture, message.
b. Yearning desire to approximate to God.
(1) Character and attainment as illustrated in Jesus.
(2) In virtue of likeness to Him may:
(a) Gain His favor and approval through giving of life and interests to others.

(1') Public confession or testimony.
(2') Public prayers.

F. SELF—SURRENDER OF THE PERSON TO THE ONE WORSHIPPED.

1. Voluntary, conscious activity.
   a. Issue of a definite decision.
   b. Personal commitment to His influence and control.
2. Means to the desired end of becoming like Him.
   a. Bring self in harmony with the nature of things.
   b. Bring self in harmony with the laws of God.

G. SACRIFICIAL LOYALTY—SERVICE.

1. Sense of the World's needs.
   a. Relief from financial anxiety.
   b. Relief from social depression.
   c. Relief from the burden of guilt and failure.
2. Sense of personal responsibility for the welfare of others.
   a. The conditions of others react on life situations.
   b. Commanded by God to live a life of service.

H. REALIZATION OF THE OPPORTUNITIES FOR SERVICE.

1. In the home.
2. To the community.
3. In the church, Sunday school, young people's meetings, etc.
4. To the stranger without the gates.

(b) Enjoy His fellowship through communion and prayer.

3. Conviction that such is possible.

(a) Praise and music.
(b) Public declaration of our faith through:

I. REALIZATION THAT VITAL SERVICE INVOLVES SACRIFICIAL LOYALTY.

1. Loyal when there is some cause or person worthy of such.
2. Willingly and thoroughly devoted to the cause or person.
3. Expression of devotion in some sustained and practical way by acting steadily in the service of a cause or person.
4. Recognition that Christian service involves sacrifice.
5. Realization that Christian service involves obedience to Christ's claims.
6. Habit of loyalty to principles.
7. Habit of discriminating between worthy and unworthy causes or persons, between legitimate and illegitimate claims.

It is not claimed that the above complex of reverence, with its contributory factors, contains all the elements that should be included to develop a standard of reverence. Nor is it claimed that all factors included in the Complex of Reverence are necessary in the development of a standard of reverence. Such can be determined only by the reaction of children when instructed through the use of these factors, according to the method employed, and the results of such instruction tested under controlled experimentation. The procedure for this type of experimentation is outlined in Chapter Four.

The production of the Complex of Reverence has extended over a period of three years, during which time efforts were made to discover the essential parts of reverence. Libraries were searched but little could be found. The library of the University of Pennsylvania and the library of Crozer Theological Seminary afford glaring illustrations of this lack. The library of Crozer Theological Seminary, composed of over forty one thousand volumes,

has two entries on reverence; one refers the reader to a sermon on the "Vulgarity of Religion" which contains five short lines on reverence; the other refers the reader to an article on the "Lack of Reverence." The library of the University of Pennsylvania, composed of over six hundred thousand volumes, has not a single entry on reverence.

Theological professors were consulted but they afforded little information. Consequently it seemed necessary to make an unaided analysis of reverence. Parts of the analysis have been subjected to the reaction of children, which affords the only scientific test of the correctness of an analysis to be used in developing character controls through the instruction complex method.

GUIDING PRINCIPLES FOR THE SELECTION AND THE ADJUSTMENT OF EXPERIENCES

The Complex of Reverence should serve as a guide in selecting experiences for lesson units. Factors from any division may be selected, translated into experiences and utilized to stimulate any individual or group of individuals relative to their applicableness to the needs of the individual or the group. The factors selected should make a definite contribution to the development of realization, sensing, attitudes, motives and standards which may be desired for the group or for the individual.

Thus lesson units would be left flexible and adjustable to the needs of the student. The lesson units should be carefully integrated so that in the course of years of training the individual will have received all the factors essential to the development of a standard of reverence. The integration of the lesson units necessitates some guiding principles which should be made available to the teacher and to the school in which the instruction complex method is to function. It is the teacher, or the school as a whole, that should determine the relative needs of the student, which is the ultimate criteria, by which to elect the experience that compose the lesson units. It is obvious that no individual

nor group of individuals can provide lesson units that will be equally applicable to pupils on the Atlantic and on the Pacific coasts; in the far North and in the extreme South; in a University city and in an industrial city; in an urban centre and in a rural district.

The teacher should have a definite concept of the desired control, and a knowledge based upon the needs of the students, of the factors that are prophetic of supplying the experiences that will adequately stimulate the students so as to produce the desired responses. These desired responses may be designated as controls of character. Such controls are built up, as shown in Chapters One and Two, through selecting and directing stimulating experiences—which the individual shall have in such a way that the experiences will contribute to the formation of realization, sensings, attitudes, motives and standards. Every person is constantly developing realizations, sensings, attitudes, motives and standards through experiences, for there are no other avenues to development, or habit formation. Consequently development may be left to chance-selection or directed and guided by the Religious Educator who knows both the desired controls of character and the contributory elements, or minor controls, which render the desired major-controls possible and functional. The major controls and the contributory or minor controls are determined by the following criteria:

PRINCIPLES THAT GOVERN THE SELECTION OF DESIRED CHARACTER CONTROLS.

The major controls may be determined by applying the following criteria:

A. Accepted purpose, which may be determined by a study of the aims and objectives of courses of study in the field of Religious Education. Such as the closely grades Sunday School lessons; texts for Week-day Schools of Religion; courses in character education as outlined by secular school boards and committees, etc.

B. Social demand and need which may be discovered through an examination of reports of committees on the state of religion; through social studies; but especially through a careful study of the home, social and religious life of individuals.

C. Scientific determination. Unfortunately, little has thus far been determined in the field of Religious Education.

The teacher should accept the findings of the psychologist; the expert findings in the field of standards and measurements; the evaluation of curriculum content as recently produced by Starbuck and his committee at the University of Iowa; and with a scientific attitude of mind evaluate the relative values of possible outcomes in a specific social setting. He should select the major to be made controlling, and adjust the minor so as to become contributory to the realization of the major.

Contributory controls should be sought in as far as they make a definite contribution to the desired major control. The desired major control may be more adequately developed through instruction when analyzed into its contributory factors and these made controlling. While there may be a great variety of factors that will contribute to the desired control some may be unnecessary and the usefulness of others may be very doubtful. Consequently, selection and subordination are necessary and should be guided by the following criteria:*

A. Range of usefulness. The greater range of usefulness that any contributory control has in experience the more likely it will become controlling in character. Is reverence useful only within the church? Or may it be useful in the home, in the vocational and avocational experiences, in social relations, in the observance of law and order? If the latter, then reverence possesses range

*These criteria have been adapted from lectures delivered by Dr. A. D. Yocum at the University of Pennsylvania, 1928-29.

of usefulness in experience and is more apt to make a real contribution to character, personality and life.

B. Frequency of recurrence in the experience of the student and the group. Where many experiences are available, the choice of experiences as stimuli should be on the basis of frequency of recurrence in the experiences of the student, human experiences, and life-situations. Such frequency may be found during a particular period of life or in specific environments which will determine the time and place that certain experiences may be used for instructional purposes.

C. Emotional appeal. Experiences which have an emotional appeal are believed to stimulate more intensely and, doubtless, evoke a stronger response. The relatively greater or less emotional appeal cannot be accurately determined apart from experimentation. However, the teacher will do well to keep this principal in mind and apply it in selecting the experiences through which the student shall pass.

PRINCIPLES GOVERNING THE SELECTION AND ORGANIZATION OF EXPERIENCES.

When the teacher has applied these guiding principles he should so organize the experiences within the lesson units that each experience becomes a contributing factor in the realization of the desired control. Each experience should be so correlated with the lesson unit and so integrated, as to make a definite contribution to the desired control. The following criteria should guide in selecting and organizing experiences:

A. Counteracting and strengthening experiences such as are necessary to make the desired control, controlling. If the child possesses a degree of selfishness, the experiences should be so selected and arranged that the experiences involved in selfishness will be counteracted, and the experiences that per-

tain to unselfishness will be strengthened by stimulating unselfish responses.

B. Limiting and completing experiences such as are necessary to render the desired control, controlling in behavior. The student should be able to see that the experiences of the lesson unit lead to definite, useful and worthwhile activity. If the experiences deal with sacrifice there should be sufficient limiting experiences to prevent the student giving promiscuously, and sacrificing in absurd ways, "Casting his pearls before swine." He should also be led to see that sacrifice is useful to society and has a definite value for his own life.

C. Interconnecting and transferring experiences such as are necessary to apply the control as generally as may be useful in the student's life. The lesson unit should be so integrated and connected, by connecting words, stories, feelings, experiences, etc., that it will become linked up with experiences that are useful to society and to the individual.

There may be times when the revival of experiences is not sufficient to bring about the desired response. In such cases the teacher must resort to actual experiences in life situations; select, guide and direct these experiences in co-operation with the student in his activities. Actual experiences should be employed in all cases where the development of the control involves:

A. Unexperienced elements. If one has not had the thrill of riding in an airplane or seeing the Canadian Rockies any description of such will be very inadequate and should not be substituted for the actual experience if such is possible. The principle is applicable in the field of Religious Education.

B. Unrealized combinations of experiences may be most adequately and efficiently realized by actual experiences. The castles which youth build in the air should be supplemented by actual experiences of

"summer's glow or winter's snow." The child from the western prairie may see the picture of the blossoms but is unable to realize the beauty of the apple and cherry blossoms until he actually sees them. It is thus with attitudes and motives, they become controlling when they actually form a part of experience.

PRINCIPLES OF ADEQUACY AND ECONOMY IN THE INTEGRATION AND SELECTION OF EXPERIENCES

The principles of adequacy and economy involve the inclusion of enough experiences of the right values, their use at most effective intervals, and the adoption of the best methods of presentation. "It is the function of the teacher ....to determine what should be learned and how well it should be learned, and to abridge the process by such devices as are effective. The human subject should be taught not only what connections to form but how to form them . . What we learn are the reactions that we make." [1]

A. Inclusiveness. The unit lesson should contain just enough experience, through which the student may be guided, to form sufficient connections in the neurone mechanism to render the control controlling. Less experiences would be inadequate, more would be wasteful. The adequate and economic amount of experiences is unfortunately difficult to determine. The teacher can, at present, do little more than approximate the principles of adequacy and economy through inclusiveness, and await the findings of experimentation to determine the limitations that appear necessary to adequacy and economy in instruction.

B. Effective intervals of repetition. This principle deals with experiences that the student should repeat because of their value in strengthening the realization, sensing, attitude, motive or standard.

1. Gates, A. I., Psychology for Students of Education, pp. 236-237.

"The effects of practice gradually die out at a rate which depends upon the native retentiveness of the particular neurones for the particular individual concerned. There is no way in which one's neurones may be trained to greater retentiveness, as far as we know. But without actual change in the retentiveness of the neural structure, better recall may be ensured by utilizing the most effective methods of practice and of organization." [2] "From the experimental studies, which are unfortunately very few, it appears that the rate at which connections lose strength through disuse depends mainly on how strong they were at the beginning of the period . . . . Reactions greatly overlearned. . . . will probably function after thirty years, forty or more years of disuse." [3] But the determination of the intervals at which experiences may be economically revived awaits the findings of experimentation. There is a great waste in overlearning. Adequate intervals of repetition should be substituted for overlearning. Any experience that has a real value and can be revived should be sufficiently repeated to function in life controls. "There is no justification in memorizing what will not be reviewed and what is reviewed has no justification unless it will be made use of." [4] Reviews as here used is a cumulative process of experiences with three definite stages of retention:

1. Initial impression may require varied periods of time depending on the nature of the impression, the mental-set of the student and the neurone mechanism that has been developed.
2. Initial repetition of the experience is uncertain. Just what duration of time may economically be allowed to elapse between the initial

2. Ibid, p. 259.
3. Ibid, p. 257.
4. Yocum, A. D., Lectures at the University of Pennsylvania, 1928.

impression and the initial repetition of the experience differs with different individuals, depending on the strength of the connections brought about during the first experiences, and the retentiveness of the neurones and the synapses. We do not know what this interval should be. Experimentation alone will provide the information.

3. Cumulative experiences should be so organized that their results are cumulative and the intervals between the experiences ever increasing in length. Such provides for development and the building up of controls through the direction and adjustment of experiences. This principle is fundamental to habit formation whether physical, mental, or emotional.

THE INSTRUCTION COMPLEX METHOD

The Instruction Complex Method consists in four distinctive steps. Each step is based upoon the psychological principles stated in Chapters One and Two.

The first step consists in the determination of the desired control—whether a realization, a sensing, an attitude, a motive, a standard—by applying the principles of accepted purpose, social demand and need, and scientific determination.

The second step consists in an analysis of the desired control into its most likely contributory factors. The contributory factors are determined by their range of usefulness, frequency of recurrence and emotional appeal.

The third step consists in the selection of experiences—stimuli—most likely to produce responses which will result in the contributory factors. Experiences are selected which will counteract and strengthen, limit and complete, and interconnect the contributory factors.

The fourth step consists in arranging or adjusting the experiences—stimuli—so as to evoke responses most likely

to develop a realization, a sensing, an attitude, a motive or a standard, as the case may be. A different arrangement of experience, or order of stimulation,or method, is used in developing each control form. The distinctive method for developing a realization, a sensing, an attitude, a motive and a standard is as follows:

REALIZATION is a controlling feeling of reality brought about by the presence or recall of experiences.

The method of building up and developing a realization consists in evoking, arranging and organizing experiences, as stimuli.

1. Method of evoking experiences. If experiences do not exist they are evoked by:

(a) Imitating the actions and expressions of other people.

(b) Imaging experiences closely associated with the desired experiences. This process is repeated until added associations—neurone connections—are built up.

II. Method of arranging and organizing experiences. Experiences are arranged and organized about some phase of the thing to be made real by:

(a) Selecting some phase of the thing to be made real.

(b) Guiding the student through personal experience that are closely associated with the selected phase of the thing to be made real.

(c) Reviving the student's personal experiences that have been closely associated with the selected phase of the thing to be made real. This is accomplished by inducing the student to relate his own experiences.

(d) Assembling the experiences of others that have been closely associated with the selected phase of the thing to be made real. This is accomplished by the student selecting or reading and relating experiences of other people.

Throughout the above procedure the student is the active agent and the teacher guides the student so that he avoid experiences that would detract from the desired feeling of reality.

SENSING is an emotional readiness of mental set.

The method of building up and developing a sensing consists in analyzing the desired sensing into its component factors; in counteracting and counterbalancing factors likely to hinder the development of the desired sensing; and in practicing discrimination between the finer relationships revealed by the analysis.

I. Analyzing the desired sensing into its component factors and strengthening these factors:

(a) The analysis is procured through:

(1) The subjective judgment of the teacher.

(2) The subjective judgment of the teachers and the student.

(b) The component factors are strengthened by:

(1) Repetition of experiences most likely to stimulate the student so that his repose will reproduce the desired component factor.

(2) Association with experiences which are rich in similar contents. The student is the active agent in the process and, in as far as possible, the analysis is made by him.

II. Counterbalancing and counteracting factors likely to hinder the development of the desired sensing.

(a) The counterbalancing is brought about through preventing the student being stimulated by experiences likely to develop the opposite of the desired component factors. For example if a sense of honesty were desired it could be built up by preventing the student being stimulated by experiences that are likely to develop dishonesty, such as idleness, poverty,

dishonest friends, etc. The wrong neurone connections would thus weaken through disuse.

(b) The counteracting is brought about by:—

(1) Intensifying the stimuli—experiences—which produce the desired component factors. The procedure for thus doing is outlined in chapter one.

(2) Reconditioning the stimuli—experiences—of the student according to the psychological principles stated in chapter one.

III. Practicing discrimination between the finer relationships revealed by the analysis.

The teacher guides the student in distinguishing between phases of the desired and phases of the undesired factors. The student himself applies the principle of discrimination to many life situations through which he daily passes.

ATTITUDE is an emotional mind-set-to-an-end. The method of building up and developing an attitude consists in centering existing feelings upon useful ideas and experiences; emotionalizing ideas which are not adequately felt; and avoiding methods that lessen the emotional appeal.

I. Centering existing feelings upon useful ideas and experiences.

(a) Useful ideas are determined by their range in human experience and the frequency of their recurrence in life.

(b) Existing feelings are centered on useful ideas and experiences by selecting and directing the student's emotionally toned experiences. For example, in teaching an attitude of respect for law, the existing feeling of respect is centered on the idea of "stop-lights." These are usually

emotionally toned. They have great range in human experiences and are recurring many times a day. The student performs the activity involved by making his own selection through the guidance of the teacher.

II. Ideas not adequately felt are emotionalized by:

(a) Associating feelings with useful ideas through relating the experiences of others.

(b) Conditioning experiences associated with the ideas by applying the psychological laws of conditioning as outlined in chapter one.

III. Methods that lessen the emotional appeal and which are apt to result in confused centering are avoided. Such methods may be premature generalizations, undue moralizing, overstressed discrimination, etc.

MOTIVE is a controlling feeling or inner persisting emotional drive that predisposes the individual to a course of action, whether the action occurs or does not occur.

The method of developing a motive requires the existence of an attitude analogous to the desired motive. This is developed by the above procedure for developing an attitude, if such does not exist. When the attitude exists, the motive is developed by:

I. Repeating and associating weaker motives not in themselves harmful. This step in the method is accomplished by:

(a) Generating a "felt need" through presenting situations in which the student's experiences are inadequate to meet the situation and by leading the student to realize, according to the method for developing realizations, that his highest interests depend upon adequately meeting life's situations. The "felt need" may be either a weak or a strong motive, depending upon the intensity of the "felt need."

(b) Repeating weak motives.

(c) Associating weak motives through the psychological laws as outlined in chapter one.

II. Practicing the desired motive until it becomes strong by:

(a) Keeping the desired motive most conspicious in the experiences of the student.

(b) Repeating the desired motive in a variety and number of experiences.

STANDARD is an emotional behavior pattern which results in successive degrees of achievement.

The method of developing a standard consists in arranging the desired standard as attainable steps in the order of their attainableness; in the student's wish to achieve and will to persevere; and in reminding the student to try to achieve the next succeeding step.

The above three steps in the method are attained through:

I. Arranging the desired standard as attainable steps in order of their attainableness by:

(a) Subjectively analyzing the standard into its component factors.

(b) Arranging the component factors in the order of their attainableness.

II. Developing a wish to achieve and a will to persevere:

(a) A wish to achieve is attained through developing a "felt need."

(b) A will to persevere is attained by practicing the effort to satisfy the "felt need."

III. Reminding the students to try to achieve the next step by repeating and practising the efforts to achieve until they become habitual in the student's mode of response to life situations.

LESSON UNITS ILLUSTRATING THE INSTRUCTION COMPLEX METHOD OF PROCEDURE

The following lesson units were used with the experimental group of students to develop selected portions of the reverence complex and, in as far as the local situation permitted, were developed according to the guiding principles outlined in chapter three. They, like those used with the control group of students, are based upon Blanche Carrier's text book for Week-day Religious Schools. "The Kingdom of Love," Part II. Practically the same materials were used for instructional purposes with the control group of students and with the experimental group of students.

The control group of students were taught by the use of the commonly used traditional lecture discussion method. The experimental group of students were taught by the use of the instruction complex method which differs from the traditional lecture discussion method in the specification of the control elements according to the procedure for building up an instruction complex; in the organization of materials in accordance with this specification; and in the presentation of the ideas of the text in the form of concrete experiences which definitely contribute to the development, in the students, of the essential control elements.

For example, in lesson unit number one the teacher, using the traditional lecture discussion method, reads passages from the Bible, relates incidents, tells stories, urges the students to discuss the lesson and endeavors to develop, in the students, a realization of the sympathy of Jesus. The teacher using the instruction complex method also endeavors to develop, in the student, a realization of the sympathy of Jesus but employs the procedures for developing a realization as outlined. He subjectively analyzes the sympathy of Jesus into its most likely contributory factors; carefully selects and organizes materials, that are likely to produce the desired contributory factors, from the same text as is used by the teacher using the traditional lecture discussion method; translates these materials in terms of

the student's experiences—worship activities, motor expression and adjusted experiences; and stimulates the student's imagination, directs the students in selecting a specific phase of the sympathy of Jesus and guides the students in personal, revived and reassembled experiences.

In the instruction complex method the students are active agents in class room experiences. The teacher plays the role of guiding the students in developing a realization of the Sympathy of Jesus.

Each of the following five lessons units is composed of three parts—worship activities, motor expressions and class room experiences. The amount of student activities is progressively increased. The lesson units illustrate respectively the specific method for developing a realization, a sensing, an attitude, a motive and a standard.

It is the organization and presentation of the text book material that constitute the essential differences between the traditional lecture discussion method of instruction and the intruction complex method of instruction.

FIRST LESSON UNIT

Realization of the Sympathy of Jesus

This lesson unit is taught by both the traditional lecture discussion method and the instruction complex method. The materials used by both methods are based on Blanche Carrier's text book for Week-days, Schools of Religion. "The Kingdom of Love," part II.

The objective of both teachers consists in developing in the students a realization of the sympathy of Jesus. In the traditional lecture discussion method the teacher endeavors to achieve his objective by relating biblical incidents in which the sympathy of Jesus was expressed; telling the students how they should express sympathy; and persuading the students to discuss the ideas thus presented to the class. In the instruction complex method the teacher

endeavors to achieve his objective by employing the method for developing a realization.

The instruction complex method consists in evoking, arranging and organizing experiences as follows:

I. Evoking experiences by:

(a) The students imitating the actions and expressions of the teachers and other students.

(b) The students imagining experiences closely associated with the desired experiences.

II. Arranging and Organizing experiences by:

(a) The student selecting sympathy caused by sorrow and death as the thing to be made real.

(b) The students passing through personal experiences closely associated with sickness and death.

(c) The students reviving personal experiences in which the desired type of sympathy was expressed to them or by them.

(d) The students assembling experiences of others in which the desired type of sympathy was expressed.

(e) The teacher guides the students in relating their experiences to the sympathetic suffering of Jesus and endeavors to avoid any distracting experience.

THE CONTENT OF THE INSTRUCTION COMPLEX LESSON UNIT

1. **Worship,** all classes actively participating.

A. Hymn is sung by the school, "The Lord is in His Holy Temple."

B. 23rd. Psalm is recited in unison by the entire school.

C. Prayer is offered by the leader, centering about dependence on God.

D. Lord's Prayer is recited in unison by the entire school.

E. Psalm 110, verse 10, with the word 'reverence' substituted for the word 'fear' is presented by the use of a lantern, is repeated by the entire school, and in memorized as the school slogan.

F. Brief talk is given on the meaning of reverence in the work of the school.

G. Hymn is sung by the school, "I would be true."

2. **Motor Expression** through orderly dismissal of classes.

Orderly dismissal of classes is practiced as an expression of a reverent attitude. Disorderly behavior in transferring from one room to another will quickly destroy the spirit generated by the worship period, distract from reverence for the church, and tend to destroy reverence for God. Any confusion or disorder between the worship period and the adjustment of class room experiences militates against a reverent approach by interjecting a distracting association.

3. **Adjustment of class-room experiences.**

The teacher leads the students in realizing the sympathy of Jesus by arousing and actively engaging the imagination; by creating situations in which the students may imitate the sympathy of Jesus; and by developing the feelings thus generated, as follows:

A. **Imagination**

The students read from the Bible, as soon as they enter the class-room, the "Cleansing of the Leper;" the "Restoration of the Sick Man;" the "Story of the Good Samaritan." The students discuss these stories; the teacher directs attention to the poverty

and suffering of Jesus' day, thus leading the students to see through their own discussion how sympathetic Jesus was.

B. **Imitation**

The students discuss how the nurse, the doctor, the minister, the friend, in the time of sickness and need, are imitating Jesus. The students suggest poor homes, sick children, etc., that they might visit, cheer and help.

Each student accepts some specific piece of relief work to be accomplished during the coming week and reports to the class the next session, i. e., reports his or her own experiences in which he or she tried to imitate Jesus. The teacher guides and directs the students in the selection of the situations in which the experiences occur.

C. **Realization of a Specific Phase of Sympathetic Experience.**

The teacher guides the students in selecting some specific experience of some student in the group who has passed through sorrows caused by sickness and death in the home.

a. **Immediate personal experiences.**

The students are requested to visit the sick in homes or hospitals and report their experiences the following week. If there were sickness in any home represented by the students such should be utilized.

b. **Revived experiences.**

The students relate their own experiences in which sympathy had been shown in times of need. The teacher relates these experiences with the experience of Jesus by showing similarities.

c. **Reassembled experiences.**

The students recall the experiences of such people as Robert Raikes, Florence Nightingale, Dr. Grenfell. The teacher constantly adds to the recall of the students and centralizes the efforts in the sympathetic suffering of Jesus upon the cross. The above three stories should have been read by the students the preceding week to have become most effective.

d. **Avoid distracting experiences.**

It is necessary for the teacher to carefully avoid the introduction of any experiences that might distract the attention of the students from the central thing to be realized.

SECOND LESSON UNIT

A Sense of God's Love.

This lesson unit is taught by both the commonly employed traditional lecture-discussion method and the instruction-complex method. The materials employed by both methods are based on Blanche Carrier's text book for Week-day Schools of Religion, "The Kingdom of Love," part II.

The objective of both teachers consists in developing in the student's a sense of God's Love. In the traditional lesture-discussion method the teacher endeavors to achieve his objective by relating stories of the love of God as recorded in the Bible, and as seen in life, explaining these stories to the students, endeavoring to apply the principle of love to the life of the student, and persuading the students to discuss the ideas thus presented. In the instruction-complex method the teacher endeavors to achieve his purpose by employing the method for developing a sensing.

The instruction complex method consists in analyzing the desired sensing into its component factors and strength-

ening these factors, in counteracting and counterbalancing factors likely to hinder the development of the desired sensing, and in practising discrimination between the finer relationships revealed by the analysis. The teacher guides the students in:

I. Analyzing the love of God, as expressed in life, into its component factors and strengthening these factors.

(a) The analysis is accomplished through relating and discussing the experiences of the student, the teacher and Jesus.

(b) The factors arrived at through the analysis are strengthened by the students practicing these factors, such as joy, thoughtfulness, kindness, sacrifice, etc.

II. Counteracting and counterbalancing factors likely to hinder the development of any factor revealed by the analysis.

(a) The students avoid stimulation from the opposing factors.

(b) The opposing factors which are more or less habitual are conditioned by desirable factors, in the experience of the students.

(c) The students practice the desirable factors.

III. Practising discrimination between the finer relationships revealed by the analysis.

(a) The students are guided by the teacher in making such discriminations.

(b) The students apply the principle of discrimination to the life situations through which they daily pass.

THE CONTENT OF THE INSTRUCTION COMPLEX

LESSON UNIT.

1. **Worship,** all classes actively participating.

   A. Hymn is sung by the school. "This is My Father's World."

   B. 13th. Chapter of First Corinthians is read by the school in unison.

   C. Prayer compiled on the basis of the prayers of the students is thrown on the screen and is read by the students as the school prayer; some attempt is made to memorize this prayer.

   D. Psalm III, verse 10, as used in the former lesson unit is repeated.

   E. A brief explanation of "Wisdom" is given by the leader of worship.

   F. Hymn is sung by the school, "I Would be True."

2. **Motor expression** through orderly dismissal of classes.

Immediately on entering the class room the students are quietly seated, and the session opens with brief prayer by one of the students. Without loss of time, the class room experiences begin as follows:

3. **Adjustment of class room experiences.**

   I. Analysis of the Love of God into its component factors.

   (a) The students and teacher discuss ways in which they have expressed love for others. The teacher aids the students in deciding how Jesus expressed love.

   (b) The following factors are thus arrived at:

   (1) Joy through the association of friends.

(2) Confidence in parents and friends.
(3) Thoughtfulness for the feelings of others.
(4) Kindness toward others.
(5) Sacrifice that has been made by the students while trying to be kind and loving.
(6) The students practice these factors, and report their experiences to the class the following session.

II. Counterbalancing and Counteracting factors likely to hinder the development of any factor revealed by the analysis.

(a) The students and teacher discuss what hinders them in being kind, loving, thoughtful, etc.

(b) The students avoid the following things that appear from the discussion to hinder the desired factors of kindness, etc.
(1) Loneliness and lack of friends.
(2) Lack of respect for the rights of others.
(3) Distrust of the faithfulness of friends.
(4) Selfishness and forgetfulness of the interest and feelings of others.
(5) Jealously of the success of others.

(c) The students practice the desirable factors.

III. Practice in discriminating between finer feelings involved.

The teacher guides the students in discriminating between friends and loved ones, in the discharge of duty and sacrificial service, and in the imperfect love and sacrifice of those who love us best and the perfect love and sacrifice of God. A student tells of the death of Jesus, and all are assigned, for reading, the story of the crucifixion as recorded by John.

THIRD LESSON UNIT

An Attitude of Worship

This lesson is taught by both the commonly employed traditional lecture method and the instruction complex method. The materials used by both methods are based on Blanche Carrier's text book for week-day schools of religion. "The Kingdom of Love," part II.

The objective of both teachers consists in developing in the students an attitude of worship. In the traditional lecture-discussion method, the teacher endeavors to achieve his objective by relating stories of these who worshipped God as recorded in the Bible and as known through history; stating the ideas lying back of worship, urging the students to attend church, etc., and persuading the students to discuss the idea of worship. In the instruction-complex method, the teacher endeavors to achieve his objective by employing the method for developing an attitude as outlined.

The instruction complex method consists in centering existing feelings upon useful ideas, in emotionalizing ideas which are not adequately felt, and in avoiding methods that lessen the emotional appeal. The teacher guides the students in:

I. Centering existing feelings upon useful ideas and experiences through stimulating the students in:

   (a) Discussing and determining useful ideas according to the procedure outlined.

   (b) Recalling the experiences of Jesus on the Sabbath.

   (c) Practicing the factors contributory to worship, such as wonder, gratitude, dependence and love.

II. Emotionalizing useful ideas not adequately felt. This is accomplished by:

   (a) The teacher aiding the students in discovering the value of the Bible to Martin Luther, David Livingstone, etc.

(b) The students forming an imaginary picture of conditions in their town without the influence of the Bible.

III. Avoiding methods that are apt to result in a confused centering and thus lessening the appeal. This is accomplished by the teacher's careful guidance in discussion, etc.

THE CONTENT OF THE INSTRUCTION COMPLEX LESSON UNIT.

1. **Worship,** all classes actively participating.

   A. Hymn is sung by all, "Worship the Lord in the Veauty of Holiness."

   B. John, 4, verses 23-24, is read by the entire school and the meaning of worship is explained by the leader of worship.

   C. The school prayer is repeated in unison.

   D. Psalm III, verse 10, is repeated by the entire school.

   E. Hymn is sung by the school, "When Morning Gilds the Sky."

   F. Hymn is sung by the entire school, "The Old Rugged Cross."

   This service of worship would be more effective were it conducted in the auditorium of the church.

2. **Orderly dismissal** of classes, as outlined in lesson unit number two.

3. **Adjustment of class room experiences.**

To futher develop an attitude of worship the teacher assumes or develops a feeling of gratitude to, dependence on, and love for God, who is known through Jesus, the Bible, the Church and Christian people.

For the purpose of the present class room experiences such feelings are assumed to exist in the experience of the students.

1. Centering Existing Feeling.

(a) The students write a report of the previous week's assignment.

(b) The students recall the experiences of Jesus who "went as was his custom, on the Sabbath day, to the house of Prayer."

(c) The students are aided by the teacher in analyzing worship into the following elements.

1 Wonder

The students are reminded of the wonder of Niagara Falls which supplies electric power. The students present illustrations of power that cause wonder, such as an electrical storm, life and death, and discuss their usefulness in life situations.

2 Gratitude

The students relate ways in which they are grateful to parents, friends and God. The following week the students bring an offering in which they express their gratitude. The teacher points out the relationships that exist between worship, giving and gratitude.

3 Dependence

The teacher requires the students to tell where they secured their food, clothing, shelter, health, life and thus leads the students to see that they depend on God for everything.

4 Love

The students discuss how they can best express their love to God by giving their best attention, best thought and best self in worship.

2 Emotionalize any useful ideas not adequately felt.

The teacher emotionalizes Bible reading in the experience of the students by relating the place David Livingstone gave the bible, the reformation it brought to Africa, and the respect the natives expressed for Livingstone. Likewise, the place of the Bible in the life of Martin Luther, and the Reformation growing there from bringing blessing and freedom to the world.

(a) The students try to form a picture of their town without the influence of the Bible and decide if they desire to live in such a place.

(b) One of the students relates the story of the "Knight of the Pure Heart" as presented in Blanche Carrier's book for Week-day Schools of Religion in, "The Kingdom of Love." page 157. Thus the value of prayer in practical life is presented to the students with emotional content.

FOURTH LESSON UNIT

A Motive of Prayer

The lesson unit is taught by both the commonly employed tradition lecture discussion method and the instruction complex method. The materials used by both methods are based on Blanche Carrier's text book for Week-day Schools of Religion, "The Kingdom of Love," part II.

The objective of both teachers consists in developing in the students a motive of prayer. In the traditional lecture-discussion method the teacher endeavors to achieve his objective by explaining to the students that Jesus prayed and taught others to pray, urging the students to pray, and leading the students in discussing the idea of prayer. In the instruction-complex method the teacher endeavors to achieve his objective by employing the method for developing a motive as outlined.

The instruction complex method consists in developing an attitude analogous to the desired motive by the procedure for developing an attitude, in the creation and association of weaker motives, and in practice in associating and in using the highest motives.

In the instruction complex method the teacher develops in the students an attitude analogous to the desired motive by the procedure for developing an attitude. Unless such an attitude already exists in the experience of the students, in which case the motive is developed as follows:

1. By creating and associating weak motives through:
   (a) Arranging situations in which the students experience a "felt need," and become conscious of inadequacy.
   (b) Arranging situations in which the students desire to overcome such inadequacy.
   The consciousness of and desire to overcome inadequacy constitutes a weak motive. The teacher now guides the students in associating weak motives through:
   (a) Repeating weak motives.
   (b) Associating desirable weak motives in the student's experiences.

II. By practising the desired motives through:
   (a) Keeping the desired motive—prayer—most conspicuous in the experience of the students.
   (b) Repeating the desired motive in a variety and in a number of experiences.

THE CONTENT OF THE INSTRUCTION COMPLEX

LESSON UNIT.

1. WORSHIP, all classes actively participating.
   A. Hymn is sung by all, "Father in Heaven."

B. Lord's Prayer is repeated by the school in unison.

C. Seven students present the series of stories interpreting the Lord's Prayer as outlined in Blanche Carrier's text book Week-day Schools of Religion in "The Kingdom of Love" pages 179 to 194.

D. Psalms 111, verse 10, is repeated by the entire school.

E. Hymn is sung by the school. "I Need Thee Every Hour."

2. MOTOR ACTIVITY through the orderly dismissal of classes as outlined in the second lesson unit.

3. ADJUSTMENT OF CLASS ROOM EXPERIENCES

To develop a motive the teacher must develop in the students, or assume the existence of, realizations and attitudes which involve feelings that are analogous to the feelings which accompany the specific motive desired. To develop prayer as a motive, the teacher must assume or cause the students to develop a sense of dependence on God, a realization that God can be depended on, and an attitude of trust in our Father's gratuitous love with such prerequisites, which are assumed for this lesson unit, the procedure outlined for developing a motive is employed in developing the desired motive. The students relate life situations in which they have felt the need of prayer, in temptation, in sickness, in sorrow, etc. This recall is often sufficient to revive a "felt need."

(a) REPEATED USE OF WEAKER MOTIVES NOT IN THEMSELVES HARMFUL.

In view of the fact that the following motives are found to be more or less common to students, through a survey of nearly one thousand students, the teacher secures the students' re-

action through their approval or disapproval of the following motives:

1. Sense of duty to pray.
2. Desire to be good.
3. A means of securing gifts from Jesus?
4. To secure help for success, achievements and to avoid punishment.
5. An opportunity of talking with God.
6. To protect from sickness.
7. To secure better food.

(b) THE ASSOCIATION OF STRONG MOTIVES IN LIFE-SITUATIONS

1. The students discuss how Christ may be made real in the hour of temptation, trial, etc., through prayer. The teacher keeps this motive uppermost in the conclusions to which the students arrive, through their own considerations, by constantly suggesting the need for the presence of Jesus and by relating His promise to never leave or forsake us.
2. The students endeavor to determine how they can best realize their highest ideals through effort. The teacher relates, by reference to Jesus in Gethsemane, that prayer is one form of man's highest effort.
3. The students are assigned the task of memorizing Lord Tennyson's poem on prayer and urged to practice prayer in daily life.

FIFTH LESSON UNIT

STANDARD OF LIVING THE LAWS OF LOVE.

The lesson unit is taught by both the commonly employed traditional lecture discussion method and the instruction complex method. The materials used in both me-

thods are based on Blanche Carrier's text book for Week-day Schools of Religion, "The Kingdom of Love," part II.

The objective of both teachers consists in developing in the students a standard of living the laws of love. In the traditional lecture discussion method the teacher endeavors to achieve his objective by employing illustrations of men who have lived a life of love; stating the commands of the Bible and explaining them to the students; discussing the laws underlying love; and urging the students to love one another. In the instruction complex method the teacher endeavors to achieve his purpose by employing methods for developing a standard as outlined.

The instruction complex method consists in arranging the desired-living the laws of love—as attainable steps in order of their attainableness; in the student's wish to achieve and will to persevere; and in the students being reminded to try to achieve the next succeeding step. The teacher guides the students in:

1. Arranging the Laws of Love in attainable steps through:

   (a) The students relating why and how they love themselves.

   (b) The students discussing how animals preserve their life and species.

   (c) The students draw analogies concerning friends, parents and Jesus.

II. Developing a controlling wish to achieve and will to presevere through:

   (a) The students developing a wish to live the laws of love by the method outlined above for developing a motive.

   (b) The students developing a will to persevere by practising loving acts.

III. Remembering to try and live a life of love.

(a) The students discuss and adapt methods.

(b) The students practice living the laws of love until they become habitual.

THE CONTENT OF THE INSTRUCTION COMPLEX LESSON UNIT.

1. WORSHIP, all classes actively participating.

   A. Hymn is sung by all, "This is My Father's World."

   B. Psalm 111, verse 10, is repeated by all in unison.

   C. Brief talks are given by the students explaining how love should affect life.

   D. Lord's Prayer and the school prayer are repeated by all.

   E. Hymn is sung by all, "Love, That Will Not Let Me Go."

2. MOTOR EXPRESSION through orderly dismissal of classes as outlined in the second lesson unit.

3. ADJUSTMENT OF CLASS ROOM EXPERIENCES. Students relate their success or failure in practising prayer.

   A. Attainableness of the next succeeding step.

      (a) Students relate how and why they love themselves. The teacher suggests illustrations from the natural world where animals must love themselves or perish,—tiger, lion, etc.

      (b) The students make the analogy that if parents do not love their children they allow them to perish.

      (c) The students are likewise led to see that if friends do not love friends society soon perishes.

B. Controlling wish to achieve and will to persevere.

Students relate the following stories:

(a) Abraham Lincoln and his achievements.
(b) Sheldon's "What Would Jesus Do?"
(c) Harold Begbie's "The Day that Changed the World."

Students relate and discuss briefly their desire to achieve and love self better, others more, God most.

The students develop the habit of persevering through constant effort to love both friend and foe.

C. Reminders to try.

1. The students discuss and adopt methods to overcome hatreds for school companions, etc.
2. The students are required to produce written statements of their success or failure in trying to overcome hatreds and of their success in increasing their love.
3. The students are encouraged in practising sacrificial love and are urged to embody the principles "Love one another even as I have loved you."

The above lesson units were presented by the experimentor to the teachers of the exprimental group one week in advance of presentation to the classes concerned. The teachers of the control group used the lesson units as outlined in Blanche Carrier's text book Week-day Schools of Religion, "The Kingdom of Love," part II. The teachers did not always have sufficient time to present the entire lesson unit and consequently selected and omitted phases of the experiences as outlined. To perfect the lesson units, they must be subjected to experiment to determine what experiences are necessary to develop a given control and

what experiences are unnecessary. This evaluation of experiences, relative to their stimulating effects and the determination of the exact responses necessary to develop the control desired, is a task of, perhaps, many years. In the meantime all that can be done in this type of investigation is to select the most likely experiences—stimuli—and endeavor to subject the responses of the students to experimental evaluation.

CHAPTER IV

TWO EXPERIMENTS—ILLUSTRATING HOW THESE PROCEDURES MAY BE EVALUATED

Two experiments have been conducted by the writer under the painstaking supervision of Dr. A. D. Yocum. In each case the procedures were subjected to an experimental method of evaluation on the basis of the reaction of students. Each experiment was limited by local conditions which were not adjustable.

Precautions were taken by the exprimentor to secure both standard teaching conditions and standard testing conditions. The experiments are too limited to yield determining results. Nevertheless they demonstrate how the procedures employed may be evaluated. The primary purpose of the experiments consists, in illustrating how the instruction complex method may be scientifically evaluated.

Experiment I

"Courage of Convictions" was taught to two groups of students in grades seven and eight. One group, hereafter called the control group, was taught by the commonly employed traditional lecture discussion method. The other group, hereafter called the experimental group, was taught by the Instruction Complex method.

Laboratory

In September, 1927, an arrangement was entered into by the School Board of the Public School System, of Upland, Pa., and the officials of Crozer Theological Seminary. According to the agreement all students in grades five, six, seven and eight, with the parents' consent, might come to Crozer Theological Seminary every Thursday afternoon

from two thirty o'clock to three thirty o'clock for religious instruction. The students were grouped according to school grade and sex. Grades seven and eight were combined for instruction, and were chosen for the experiment. This selection was made on the basis of the probable greater maturity of the students; the convenient size of the groups, and their accessibility to the experimentor who was placed in complete charge of the instruction of the boys, and given complete freedom in the selection of the curriculum to be used and methods to be employed. The group of girls was instructed by a competent lady who was interested in experimentation, a former student of the experimentor and an active member of the research committee in the Crozer School of Religion of which the experimentor was chairman and director. She followed instructions carefully, and maintained a scientific attitude of mind throughout the experiment.

Procedures

Little scientific data were available at the beginning of the experiment. The religious background of both groups was relatively uniform. The Illinois General Intelligence Test was given to both groups. The results of this test were used as a check and guide for classification and ranking, and as a relatively constant standard for purposes of comparison.

The control group was composed of twenty-eight students ranking in age from eleven years and eleven months to fourteen years and seven months, and the intelligence quotients ranging from sixty-nine to one hundred and forty-nine. The experimental group was composed of twenty-two students ranging in age from eleven years and two months to sixteen years and one month, and their intelligence quotient ranging from seventy-eight to one hundred and twenty-eight. When the groups are compared in terms of medians and quartiles on the basis of age and intelligence quotients as shown in Table I, the control group appears superior in intelligence and younger in years. This may in-

dicate that the control group should show greater progress as a result of instruction.

TABLE I. COMPARATIVE AGE AND INTELLIGENCE QUOTIENTS OF THE TWO GROUPS

		Age	Intelligence quotient
Median	Control group	13.11	111.3
	Experimental group	14.11	100.1
25 percentile	Control group	13.2	100.1
	Experimental group	14.7	96.4
75 percentile	Control group	13.9	120.8
	Experimental group	13.8	111.3

The groups were also compared on the basis of their ability to comprehend and retain emotional and non-emotional material. Four emotional and one non-emotional tests were given both groups on the same days under standard conditions. The first test consisted of an attempt to memorize a given emotional passage from the Bible, in a given length of time, and the immediate recall of the same by writing all that could be remembered. The second test was given after a lapse of two weeks. It consisted in the students writing all exact words or ideas which they had memorized for test number one. The third test was auditory and consisted in an attempt to remember a given emotional passage, read from the Bible by the teacher. The fourth test consisted in the children studying the "Story of Joseph and his Brethren." After a lapse of five minutes they were required to write answers to questions concerning the passage, and to relate the story in writing. The fifth test combined the procedures of test three and of test four, but was limited in content to non-emotional material.

The scoring of these tests was largely mechanical and permitted of little subjective judgment. For each idea re-

lated by the student one point score was given. It was deemed unnecessary to weight these simple tests where the scoring was so mechanically done.

This battery of preliminary tests illustrates a procedure that furnishes a basis for relative comparison of the ability of each group to comprehend and retain emotional and non-emotional material.

TABLE II. COMPARATIVE COMPREHENSION AND RETENTION OF THE TWO GROUPS

	Groups	I. Q.	Test 1	Test 2	Test 3	Test 4	Test 5
Median	Control	111.3	7.	5.2	18.7	11.2	12.3
	Experimental	100.1	7.9	4.6	20.3	12.8	16.8
25 Percentile	Control	100.1	7.2	4.3	12.4	10.3	11.4
	Experimental	96.4	7.5	5.3	18.5	7.6	15.8
75 Percentile	Control	120.8	7.3	6.3	16.3	14.6	13.9
	Experimental	111.3	6.8	3.0	13.8	12.4	12.3

According to Table II, the control group is superior in comprehension and retention of emotional material. But the experimental group is superior in comprehension and retention of non-emotional material. It would thus seem that the control group should show greater achievement when emotional content material was employed, as stimuli, in instruction.

TABLE III. SCORES OF PRELIMINARY TESTS—CONTROL GROUP

Students	Grade	Test 1	Test 2	Test 3	Test 4	Test 5
1	8	7	6	19	12	16
2	8	7	5	17	13	17
3	8	6	3	18	12	14
4	7	7	6	14	14	13
5	7	7	6	14	14	12
6	7	7	7	10	10	12
7	7	7	7	17	12	15
8	8	6	6	15	10	13

9	8	7	5	18	6	12
10	7	7	5	9	11	12
11	8	6	6	12	10	12
12	8	7	6	11	8	13
13	7	7	7	18	11	13
14	7	7	7	15	12	15
15	7	7	3	12	10	8
16	7	7	3	12	13	11
17	7	7	4	12	12	11
18	8	7	0	11	10	9
19	7	7	7	16	13	12
20	7	7	4	11	9	9
21	7	—	—	12	—	—
22	7	6	—	—	10	—
23	7	6	6	10	12	10
24	7	7	6	8	13	12
25	7	4	2	18	5	9
26	7	7	1	13	6	9
27	7	7	—	—	10	7
28	7	6	3	6	6	5

TABLE IV. SCORES OF PRELIMINARY TESTS—EXPERIMENTAL GROUP

Students	Grade	Test 1	Test 2	Test 3	Test 4	Test 5
1	8	7	7	22	15	15
2	8	6	1	19	9	13
3	8	6	3	16	12	9
4	8	7	1	19	9	11
5	7	6	3	14	9	14
6	7	6	0	15	12	7
7	7	7	5	14	16	12
8	7	7	0	11	8	9
9	7	7	2	13	9	8
10	8	7	4	18	14	12
11	8	7	4	18	14	12
12	8	5	4	16	15	16
13	8	6	3	9	11	9
14	8	6	3	14	9	7
15	7	6	0	11	7	8
16	8	7	5	18	7	12
17	8	6	2	15	8	15
18	7	7	4	12	5	10
19	8	6	4	17	15	10
20	7	6	4	17	9	18
21	7	7	3	12	8	11
22	7	5	0	9	4	5

The preliminary tests were followed by a basic test which was given to both groups at the same time under standard conditions. Efforts were made to remove conditions that might induce the students to be untruthful. The student's name did not occur on the test but identification was rendered possible by a checking system unknown to the student.

The test was composed of four sections. The first section was confined to vocabulary related to courage of convictions. The remaining sections dealt with specific fields of experience; the ethical, the emotional and the situational. Each section called for eight responses involving the domestic, the social, the ethical and the religious life. The religious life was analyzed into private, social and institutional interests. Thus an attempt was made to include samples of life situations. The student was given a choice of four possible responses which range, in as far as such seemed possible, from positive to negative. The responses were checked by reasons, experiences and probable situational responses.

The scoring of the test was comparatively mechanical. One unit score was allowed for each underlined word. For each wrong meaning there was a reduction of a score relative to the number of the word, in the order given. In each section and in each response the negative, if underlined, received zero score; the positive, if underlined, received three unit score. The remaining scores ranged from zero to three for each response. For each reason, experience or situation, as the case might be, one unit score was given.

THE FOLLOWING PAGES CONTAIN SOME QUESTIONS THAT WILL AID IN DETERMINING IF YOU HAVE THE COURAGE OF YOUR CONVICTIONS.

Age, Years.....Months .....

Grade.....School .....

Date.....Day of the week.....

The following is a sample of the exercises. Note that only one of the four words is underlined. The underlined word is the answer to the statement.

1 Boys should follow their leader.....

1 Always true
2 Usually true
3 Seldom true
4 Never true

Give two reasons for your answer.

A. Any leader is sometimes wrong.

B. Most boys need a leader to direct them.

The following list of words is arranged approximately in order of difficulty. Underline each word which you know sufficiently well to explain, or to use in a sentence. Be sure to underline only the words which you know. Explain the meaning of, or use in a sentence, the last seven words you have underlined.

Brave	Application	Composure	Relentless
Trustworthy	Resolve	Persistence	Fortitude
Honorable	Patient	Constancy	Chivalrous
Courageous	Perseverance	Galliant	Credence
Confidence	Conviction	Venturesome	Intrepidity
Diligence	Adventurous	Gallantry	Doughty
Strong	Endurance	Resolution	Assiduity

1. .....
2. .....
3. .....
4. .....
5. .....
6. .....
7. .....

INTELLECTUAL RESPONSE

1. Boys should play fairly .....

1. Always true
2. Usually true
3. Seldom true
4. Never true

Give two reasons for your answer.

A

B

2. Boys should obey their parents .....
   Give two reasons for your answer.
   A
   B

   1. Always true
   2. Usually true
   3. Seldom true
   4. Never true

3. Boys should never cheat on examinations .....
   Give two reasons for your answer.
   A
   B

   1. Always true
   2. Usually true
   3. Seldom true
   4. Never true

4. All accidents should be reported to the police .....
   Give two reasons for your answer.
   A
   B

   1. Always true
   2. Usually true
   3. Seldom true
   4. Never true

5. Boys should never steal .....
   Give two reasons for your answer.
   A
   B

   1. Always true
   2. Usually true
   3. Seldom true
   4. Never true

6. Boys should pray every day .....
   Give two reasons for your answer.
   A
   B

   1. Always true
   2. Usually true
   3. Seldom true
   4. Never true

7. Boys should confess Christ .....
   Give two reasons for your answer.
   A
   B

   1. Always true
   2. Usually true
   3. Seldom true
   4. Never true

8. Boys should join a church .....
   Give two reasons for your answer.
   A
   B

   1. Always true
   2. Usually true
   3. Seldom true
   4. Never true

EMOTIONAL RESPONSE

1. If you saw a boy play unfairly would you feel? .....
   Give two experiences that have caused you to feel thus.
   A
   B

   1. Approval
   2. Unconcerned
   3. Disapproval
   4. Indignant

2. If you saw a boy disobey his parents would you feel? .....
   Give two experiences that have caused to feel thus.
   A
   B

   1. Approval
   2. Unconcerned
   3. Disapproval
   4. Indignant

3. If you saw a boy cheat in examination would you feel? .....
   Give two experiences that have caused you to feel thus.
   A
   B

   1. Approval
   2. Unconcerned
   3. Disapproval
   4. Indignant

4. If you saw an auto driver "strike and run" would you feel? .....
   Give two experiences that have caused you to feel thus.
   A
   B

   1. Approval
   2. Unconcerned
   3. Disapproval
   4. Indignant

5. If you saw a boy steal would you feel? .....
   Give two experiences that have caused you to feel thus.
   A
   B

   1. Approval
   2. Unconcerned
   3. Disapproval
   4. Indignant

6. If you allowed a day to pass without praying would you feel? ..... Give two experiences that have caused you to feel thus.
   A
   B

   1. Approval
   2. Unconcerned
   3. Disapproval
   4. Indignant

7. If your friend refused to confess Christ would you feel? ..... Give two experiences that have caused you to feel thus.
   A
   B

   1. Approval
   2. Unconcerned
   3. Disapproval
   4. Indignant

8. If you were asked to join the church would you feel? ..... Give two experiences that have caused you to feel thus.
   A
   B

   1. Approval
   2. Unconcerned
   3. Disapproval
   4. Indignant

SITUATIONAL RESPONSE

1. What would you do if you saw a member of your team play unfairly? .....

   1. Nothing
   2. Reprove him
   3. Shield him
   4. Expose him

2. What would you do if you saw a boy disobey his parents? .....

   1. Nothing
   2. Reprove him
   3. Shield him
   4. Admit his fault

3. What would you do if you saw a boy cheat on examination? .....
   1. Nothing
   2. Reprove him
   3. Shield him
   4. Expose him

4. What would you do if while driving an 'auto' you hit a person? .....
   1. "Run"
   2. Give assistance
   3. Inform police
   4. Admit the fault

5. What would you do if you saw a child steal? .....
   1. Nothing
   2. Reprove him
   3. Shield him
   4. Expose him

6. What would you do if you retired without praying? ..
   1. "Forget it"
   2. Pray tomorrow
   3. Pray in bed
   4. Arise and pray

7. What would you do if your friend refused to confess Christ? .....
   1. Nothing
   2. Reprove him
   3. Shield him
   4. Urge confession

8. What would you do if someone asked you to join the church? .....
   1. Nothing
   2. Refuse to join
   3. Argue against it
   4. Join

The experiment was begun November 25th, and continued until March 31st. The materials used in class room procedures were relatively constant for both groups. The control group considered the "Problems of Girlhood" and the experimental group considered the "Problems of Boyhood." It would have been preferable for the same teacher to have taught both the control and the experimental group but such was not possible. Only in exceptional cases can this highly desirable procedure be followed.

METHODS OF INSTRUCTION

The control group was taught according to the procedure of the traditional lecture discussions method. The class room work was thorough, interestingly presented, and the attention of the group maintained. These statements are based upon the reaction of the children when questioned concerning class room procedures.

The experimental group was taught by the instruction complex method which employs a different method of procedure when teaching a realization, a sensing, a motive, an attitude and a standard. The exact procedure is outlined in chapter three. The experiences used were carefully selected according to the specific procedure for building up each control form. The lesson units were organized according to the procedure outlined in chapter three.

The students of the experimental group were required to carry over into practical life situations the principles discovered through the experiences of the class room. Such were further motivated through supervision of organized football and baseball by the experimentor.

During the progress of the experiment some students were absent, missing the basic or the final test or an instruction period, in which case such students were eliminated as determinating factors in the final computation. This procedure reduced the control group to twenty-one students and the experimental group to twenty students. From the control group one student from the middle fifty per-

cent, and six students from the first quartile were eliminated. From the experimental group one student from the middle fifty percent and one student from the third quartile were eliminated. Thus during the process of the experiment, five likely-to-be weaker students were eliminated from the control group, and but one such student from the experimental group. Such tends to strengthen the control group.

After the period of teaching, the test which served as the basic test was given as a final test. The same procedure was followed in giving and in scoring the final test as was employed in giving and scoring the basic test.

It is generally admitted that the final test when used as a measure of achievement should be the same as the basic test or its equivalent, preferably its equivalent. It is exceedingly difficult to build a test involving moral values and emotional responses that will be equivalent. Such a task is beyond the purpose and limitations of this experiment. Besides, we know of no criteria by which to determine moral and emotional equivalency.

It is stated by authorities that the reaction of students is influenced very little by taking a test a second time. This would be particularly true if sufficient time were allowed to elapse between the giving of the test so as to eliminate the effects of practice. "Gain or Loss in Repeating Tests; Courtis states that about one child in ten will have a markedly unreliable score; and for two-thirds of the children the difference will be relatively small." [1]

TABLE V. RECORD OF CLASS ATTENDANCE AND WEATHER CONDITIONS—CONTROL GROUP

Students	January				February				March				
	D	T:D	T: D	T:D	T: D	T:D	T:D	T:D	T:D	T:D	T:D	T:D	T
1	20	27	3	10	17	24	3	10	17	24	31		
2	20	27	3	10	17	24	3	10	17	24	31		
3	20	27	3	10	17	24	3	10	17	24	31		
4	20	27	3	10	17	24	3	10	17	24	31		

1. Monroe, W. S., Devoss, J. C., and Kelly, F. J., Educational Tests and Measurements, p. 70.

5	20	27	3	10	17	24	3	10	17	24	31
6	20	27	3	10	17	24	3	10	17	24	31
7	20	27	3	10	17	24	3	10	17	24	31
8	20	27	3	10	17	24	3	10	17	24	31
9	20	27	3	10	17	24	3	10	17	24	31
10	20	27	3	10	17	24	3	10	17	24	31
11	20	27	3	10	17	24	3	10	17	24	31
12	20	27	3	—	—	24	3	10	—	24	—
13	20	27	3	10	17	24	3	10	17	24	31
14	20	—	3	—	17	24	3	—	17	24	—
15	20	27	3	10	17	24	3	10	17	24	31
16	20	27	3	10	17	24	3	10	17	24	31
17	20	27	3	10	17	24	3	10	17	24	31
18	20	27	3	10	17	24	3	10	17	24	31
19	20	27	3	10	17	24	3	10	17	24	31
20	20	27	3	10	17	24	3	10	17	—	—
21	20	27	3	10	17	24	3	10	17	—	—
22	20	27	3	10	17	24	3	10	17	24	31
23	20	27	3	10	17	24	3	10	17	24	31
24	20	27	3	10	—	—	3	10	—	24	—
25	—	27	3	10	—	—	3	10	—	24	—
26	—	27	3	10	17	24	3	10	17	—	—
27	20	27	3	10	17	24	3	10	17	24	31

D—Date

T—Temperature not a disturbing factor

TABLE VI. RECORD OF CLASS ATTENDANCE AND WEATHER CONDITIONS—EXPERIMENTAL GROUP

Students	January				February				March				
	D	T:D	T: D	T:D	T: D	T:D	T:D	T:D	T:D	T:D	T:D	T:D	T
1	20	27	3	10	17	24	3	10	17	24	31		
2	20	27	3	10	17	24	3	10	17	24	31		
3	20	27	3	10	17	24	3	10	17	24	31		
4	20	27	3	10	17	24	3	10	—	—	31		
5	20	27	3	10	17	24	3	10	17	24	31		
6	20	27	3	10	17	24	3	10	17	24	31		
7	20	27	3	10	17	24	3	10	17	24	31		
8	20	27	3	10	17	24	3	10	17	24	31		
9	20	27	3	10	17	24	3	10	17	24	31		
10	20	27	3	10	17	24	3	10	17	24	31		
11	20	27	3	10	17	24	3	10	17	24	31		
12	20	27	3	10	17	24	3	10	17	24	31		
13	20	27	3	10	17	24	3	10	17	24	31		
14	20	27	3	10	17	24	3	10	17	24	31		
15	20	27	3	10	17	24	3	10	17	24	31		

16	20	27	3	10	17	24	3	10	17	24	31
17	20	27	3	10	17	24	3	10	17	24	31
18	20	27	3	10	17	24	3	10	17	—	—
19	20	27	3	10	17	24	3	10	17	24	31
20	20	27	3	10	17	24	3	10	17	24	31

D—Date
T—Temperature not a disturbing factor

The scores of the basic and final tests are set forth in Tables VII and VIII and are graphically presented in Graphs I, II, III, and IV. On the basis of the statistics thus presented, the achievement of the control and experimental groups is evident. But when we compare the achievement of individual students within the groups on the basis of relative intelligence quotients, reading rate, comprehension and basic test scores as set forth in Tables IX, X XI and XII, the apparent greater increase in achievement is not uniform. Some students in the control group achieved more than students of equal reading comprehension according to the Illinois General Intelligence Test, in the experimental group. Twenty-eight point six per cent of the students of equal reading comprehension in the control group achieved more than students in the experimental group. Likewise when compared on the basis of reading rate, some students in the control group achieved more than students in the experimental group of equal reading rate.

TABLE VII. SCORES OF BASIC AND FINAL TESTS—CONTROL GROUP

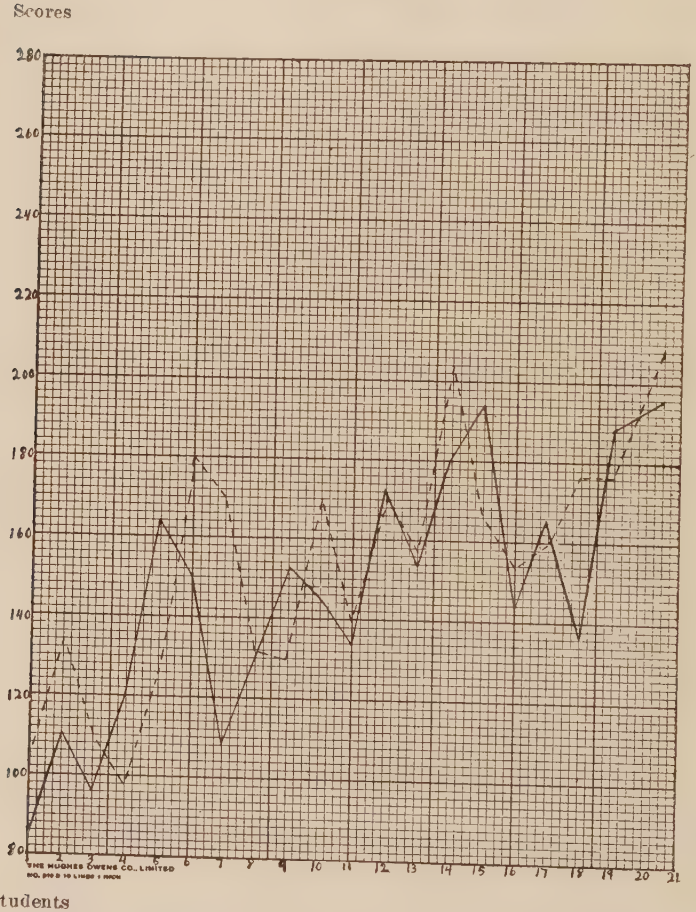
Students	Grade	I. Q.	Reading Rate	Reading Comprehension	Basis Test	Final Test	Gain
1	8	149	290	18	193	194	1
2	8	142	235	21	189	178	11
3	8	121	296	18	137	178	41
4	7	120	169	13	166	160	6
5	7	120	235	19	142	154	12
6	7	119	191	14	193	157	36
7	7	119	235	14	180	204	24
8	8	118	181	13	154	157	3
9	8	115	220	14	173	140	33
10	7	111	181	12	134	172	38

11	7	108	182	16	146	140	5
12	7	108	89	9	——	——	—
13	7	104	181	14	153	170	17
14	7	100	130	10	——	——	—
15	7	100	169	11	132	130	2
16	7	100	181	14	108	132	24
17	8	100	162	12	150	150	—
18	7	99	206	13	164	177	13
19	7	96	209	12	120	127	7
20	7	93	130	12	——	——	—
21	7	92	130	9	——	——	—
22	7	92	129	12	96	88	7
23	7	86	181	13	110	134	24
24	7	96	157	12	——	——	—
25	7	83	225	12	——	——	—
26	7	80	154	12	——	——	—
27	7	78	140	11	100	128	8
28	7	69	78	8	85	104	19

TABLE VIII. SCORE OF BASIC AND FINAL TESTS—EXPERIMENTAL GROUP

Students	Grade	I. Q.	Reading Rate	Reading Comprehension	Basis Test	Final Test	Gain
1	8	128	234	19	189	236	47
2	8	125	196	17	161	213	52
3	8	124	172	12	162	188	25
4	8	123	235	13	142	172	30
5	7	118	235	18	190	234	40
6	7	111	135	15	184	230	46
7	7	109	197	15	186	251	65
8	7	108	232	14	141	231	72
9	7	107	209	10	108	201	93
10	8	107	140	16	118	226	108
11	8	107	220	16	130	171	141
12	8	100	220	17	166	268	102
13	8	100	186	13	129	208	79
14	7	100	180	11	167	213	46
15	7	100	181	11	119	194	75
16	7	99	223	17	162	225	64
17	8	96	235	18	122	145	23
18	7	96	191	14	117	148	31
19	8	96	196	15	145	232	88
20	7	96	237	17	134	208	74
21	7	89	181	13	90	——	—
22	7	78	122	9	105	132	27

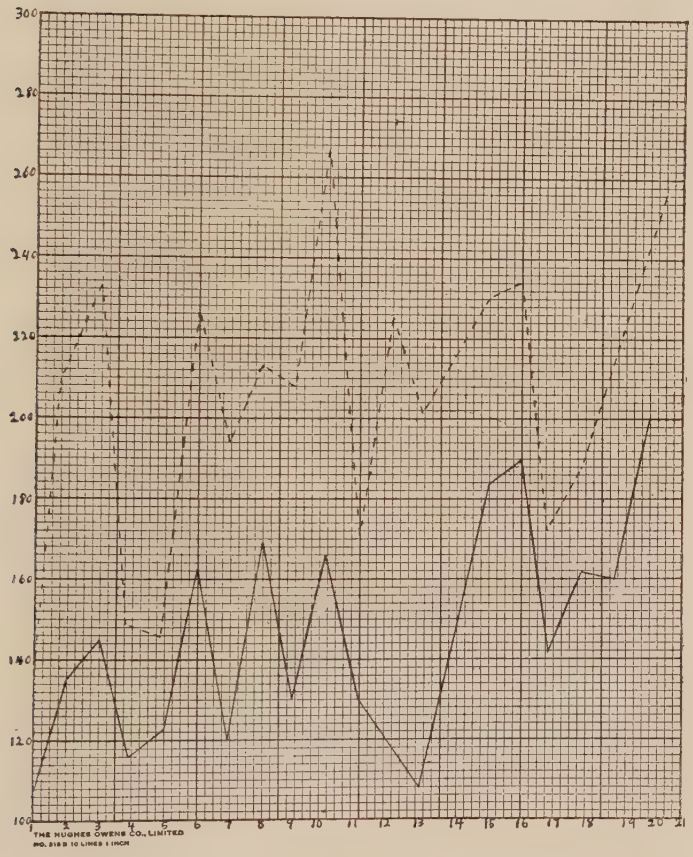
GRAPH I. ACHIEVEMENT GRAPH—CONTROL GROUP —EXPERIMENT I.



Unbroken line represents the scores of students before instruction.
Broken line represents the scores of students after instruction.

GRAPH II. ACHIEVEMENT GRAPH—EXPERIMENTAL GROUP—EXPERIMENT I.

Scores

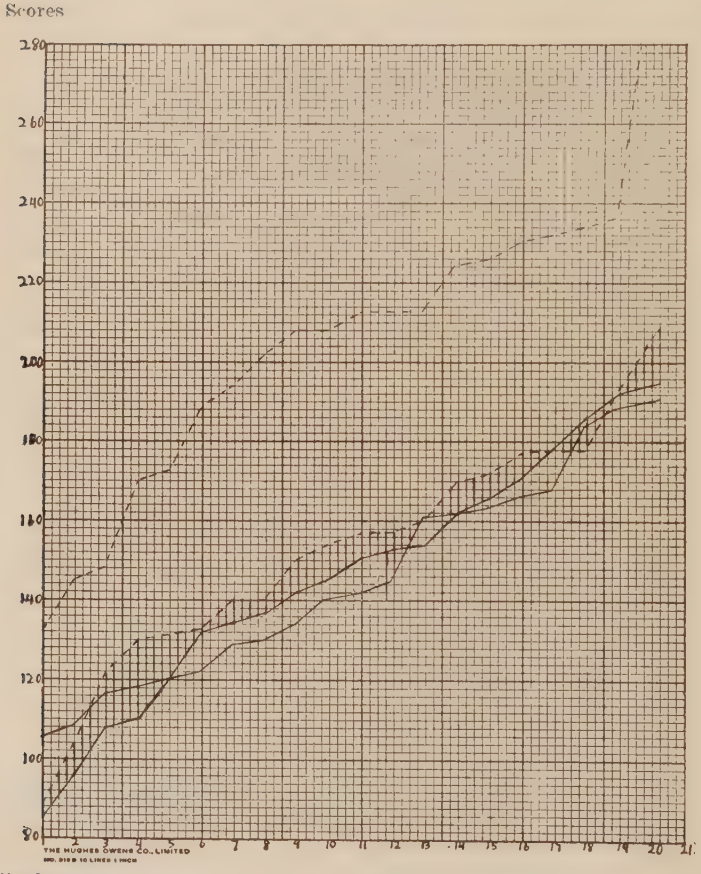


Students

Unbroken line represents the achievement of students before instruction.

Broken line represents the achievement of students after instruction.

GRAPH III. COMPARATIVE ACHIEVEMENT GRAPH—EXPERIMENT I.



Unbroken lines represent the achievement of students before instruction.

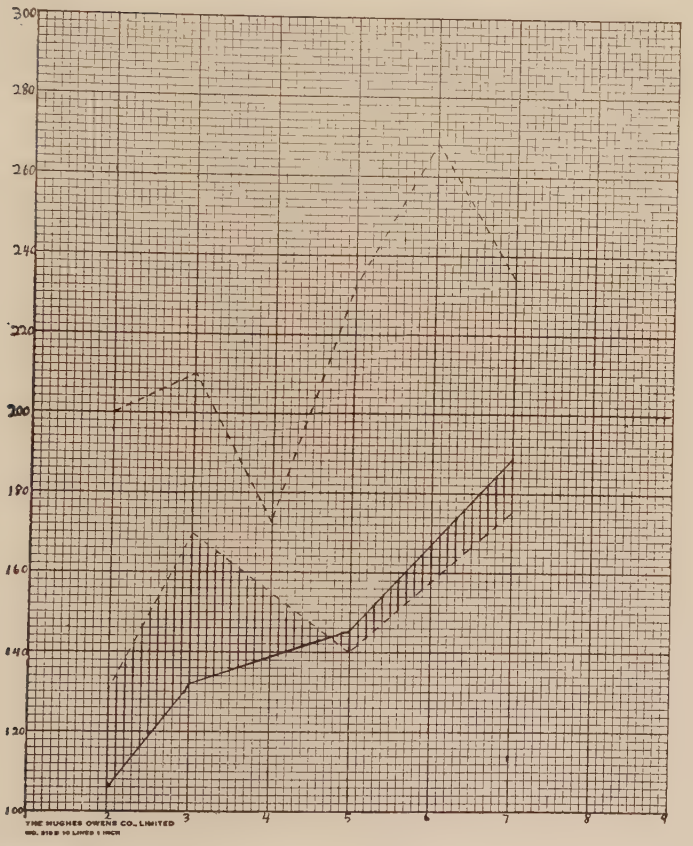
Broken lines represent the achievement of students during instruction.

Shaded portion represents the achievement of the control group.

Unshaded portion represents the achievement of the experimental group.

GRAPH IV. PAIRING ON THE BASIS OF BASIC TEST SCORES.

Scores



Students

Unbroken line represents the scores of students of equal achievement, in the experimental and in the control groups before instruction.

Broken lines represent the scores of students after instruction.

Shaded portions represent the achievement of students in the control group.

TABLE IX. STUDENTS PAIRED ON THE BASIS OF INTELLIGENCE QUOTIENT

Experimental Group		Control Group	
I. Q.	Achievement	I. Q.	Achievement
118	40	118	3
111	46	111	38
108	72	108	5
100	102	100	2
100	79	100	24
99	64	99	13
98	23	96	7

TABLE X. STUDENTS PAIRED ON THE BASIS OF READING RATE

Experimental Group		Control Group	
Reading Rate	Achievement	Reading Rate	Achievement
235	30	236	12
235	23	235	24
220	41	220	-3
209	93	209	7
198	52	196	41
191	31	191	-6
181	75	181	38

TABLE XI. STUDENTS PAIRED ON THE BASIS OF COMPREHENSION

Experimental Group		Control Group	
Comprehension	Achievement	Comprehension	Achievement
18	40	18	41
14	31	14	24
14	72	14	24
13	30	13	24
13	79	13	4
12	25	12	38
11	46	11	-2

TABLE XII. STUDENTS PAIRED ON THE BASIS OF SCORES ON BASIC TEST

Experimental Group		Control Group	
Basic Score	Final Score	Basic Score	Final Score
189	236	189	178
166	268	166	160
142	172	142	154
145	232	145	140
134	208	134	172
108	201	108	132

Tables IX, X, XI and XII render obvious, facts concerning the achievement of the individual students, and are valuable for diagnostic studies. Such a study, if followed should lead to valuable findings and to possible adjustment of remedial experiences through instruction. For example, student No. 12 achieved 102, while students of equal intelligence quotient achieved much less on the basis of the basic test. However, student number 12 had a reading and comprehension much higher than any other student of equal intelligence quotient. Perhaps some variation entered in this student's reaction to the test from which the intelligence quotient was derived or in his reaction to the basic test or to both tests, rendering the result an unreliable index to his actual achievement before the experiment was begun. Besides, student Number 12, acted as captain of the ball teams, being a recognized social leader. As leader he came in much closer contact with the experimentor and received added stimuli and motivation thereby, being urged to act on his convictions on every occasion. If the social background and the home motivation of this student had been studied, his achievement would have been more adequately interpreted, and suggestive of the kind and degree of stimuli likely to produce the desired response.

TENTATIVE CONCLUSIONS FROM EXPERIMENT 1

The number of children included in the experiment was too limited to justify generalization. We do not claim that the results of the experiment prove the superiority of one method of teaching over the other. The purpose of the experiment is to illustrate procedures of evaluating methods of instruction.

The experimental procedure sets up a method by which groups taught by different methods of instruction may be compared according to intelligence quotient, reading rate, comprehension, and by the scores obtained on a battery of tests designed to compare the emotional response of the groups. Such comparison should reveal the relative ability of the groups. When one group is found superior to the

other in ability and in achievement, we might expect this group to achieve more through a period of instruction, other things being equal.

The percentage achievement may be misleading, for uncontrolled factors and added stimuli may be unavoidably influencing the student at the time the test is taken. Student number 12 is a glaring example. "A student's performance or actual achievement . . . . depends upon his physical, mental and emotional condition. These change from day to day, and from hour to hour, and cause marked variations in successive scores of some pupils. The variation is greater in some pupils than in others." [1] While effect of practice may be largely eliminated, the personal variation must be recognized in the results. This suggests that the general tendencies in results may be of great significance in determining relative values of methods.

The final test revealed that the experimental group, has been motivated by new or different ideals and motives. In the first test four boys used the standard of right, while in the second test sixteen boys employed the standard of right. In the first test no student used the motive of success, but in the final test eight boys made use of this motive. In the basic test no boy used the motive of self respect, but in the final test nine boys used this motivation. In the first test two boys used the standard of social approval. In the second test twelve boys used this standard and some combined it with the rights of others.

The following comparison reveals the change in motivation during instruction.

BASIC TEST	FINAL TEST
1. "Got to heaven." "God knows."	Social approval, success, rights.
2. "Up to him." "His loss."	Right, wrong, rights of others.
3. "None of my business."	Self respect, rights of others.
4. "Get in wrong."	Self respect, sacrifice, ought.

1. Monroe, W. S., Devoss, J. J., and Kelly, F. J., Educational Tests and Measurements.

It would thus appear that motivation may be changed through a short period of instruction by the complex method of procedure.

EXPERIMENT II.

This experiment includes an application of the class room methods in teaching an attitude of reverence, and the valuation of the instruction complex method when compared with the commonly employed traditional lecture discussion method of instruction. No effort will be made to finally evaluate the methods employed.

The experiment includes nearly one thousand students in grades five, six, seven, eight and nine, in the Smedley Junior High School, Chester, Pennsylvania; grades seven and eight in the Sellersville High School, Sellersville, Pennsylvania; and grades five, six, seven and eight in the school system of Perkasie, Pennsylvania.

LABORATORY

While three school systems were included in the experiment, the students in the Smedley Junior High School, and the students in the Sellersville school were given the basic test only. The students in the Perkasie School System took both the basic and the final test. The remainder of the experiment was carried on in the Week-day School of Religion in Perkasie, Pennsylvania, which assembled Tuesday afternoons, from November to April. The students were released by the co-operative consent of the School Board and the parents, and were allowed to attend their respective churches from three to four o'clock for religious instruction. The community included Lutheran, Reformed, Baptists, New and Old Mennonites. The experimentor was asked to supervise the instruction of grades five, six, seven and eight. The experimentor thus had immediate access to the process of teaching. Besides, the attitude of the ministers of the churches was most favorable. Local conditions largely determined the experimental and the control groups.

PROCEDURES

The experiment was conducted without the knowledge of either teachers or students. The intelligence quotient and the reading scores were available at the school office, save for grade eight. The intelligence quotient was used as a check, a guide for classification and ranking, and as a relatively constant standard for purposes of comparison. Local conditions prevented giving a battery of preliminary tests as were used in experiment I. Consequently, the basic test was also employed as a preliminary test for comparative purposes. All tests were given under standard conditions in the public school class room through the sympathetic co-operation of the Supervising Principal. The giving of the basic test was followed by two months instruction, at the close of which the final test was given and the scores obtained on the two tests compared statistically and graphically.

GROUPS INVOLVED

The control group was composed of twenty-three students ranging in age from nine years and eleven months to fifteen years and two months. The intelligence quotient ranged from eighty-five to one hundred and twenty-two. The experimental group was composed of thirty students ranging in age from ten years and seven months to thirteen years and five months. The intelligence quotient ranged from seventy one to one hundred and twenty-two.

Irregularity of the attendance of students in grade five in the control group was sufficient to invalidate the experiment with this grade. The teachers of grade eight did not consistently follow similar lesson units, thus involving a variable that invalidated the experiment with grade eight. It was impossible to determine whether the method of instruction employed or the different lesson units were responsible for the gain or loss in the achievement of the students. Consequently grade five and grade eight will be eliminated from consideration in comparing groups and in

the final computation. Grades six and seven will be considered as one group for purposes of comparison and computation. All students who were absent any period during the experiment will also be eliminated in forming comparisons and computations.

Table XIII indicates that the control group was younger in years, of higher intelligence quotient and in reaction to the preliminary test lower in median, equal in the first quartile but higher in the third quartile. It is thus highly probable that the control group was the superior group.

TABLE XIII. COMPARATIVE AGES AND INTELLIGENCE QUOTIENT OF THE TWO GROUPS

		Age	I. Q.	Prelim. Test
Median	Control group	11.3	100	63
	Experimental group	12.1	98	67
First Quartile	Control group	10.9	92	57
	Experimental group	11.1	82	57
Third quartile	Control group	12.2	111	76
	Experimental group	13.2	106	72

TEACHERS

The ability, training, experience and personality of the teacher are always difficult factors to adjust or to equalize between two groups. No criteria have yet been determined to equate the relative values and qualities of teachers of religion. Until such has been provided, experimentation of this type will continue to be limited by the inequality of teachers. In the present experiment local conditions did not permit any adjustment in the teaching staff.

The control group was divided into three sections. One section, composed of Baptists, Old and New Mennonites, was taught by a man of fifty years of age, with a pleasing personality and many years of experience in Sunday School

teaching. Another group was taught by the minister of the Evangelical Church, an able man of fifty years of age. The third group was taught by a motherly lady, a former teacher of fifty years of age with many years of Sunday School teaching experience.

TABLE XIV. RECORD OF CLASS ATTENDANCE AND WEATHER CONDITIONS—CONTROL GROUPS

Students	November								December			
	D	T	D	T	D	T	D	T	D	T	D	T
1	6		13		20		27		4		11	18
2	6		13		20		27		4		11	18
3	6		13		20		27		4		11	18
4	6		13		20		27		4		—	18
5	6		13		20		27		4		11	18
6	6		13		20		27		4		11	18
7	6		13		20		27		4		11	18
8	6		13		20		27		4		11	18
9	6		13		20		27		4		11	18
10	6		13		20		27		4		11	18
11	6		13		20		27		4		11	18
12	6		13		20		27		4		11	18
13	6		13		20		27		4		11	18
14	6		13		20		27		4		11	—
15	6		13		20		27		4		11	18
16	6		13		20		27		4		11	18
17	6		13		20		27		4		11	18
18	6		13		20		27		4		11	18
19	6		13		20		27		4		11	18
20	6		13		20		27		4		11	18
21	6		13		20		27		4		11	18
22	6		—		20		27		4		11	—
23	6		12		20		27		4		11	18

D—Date

T—Temperature not a disturbing factor

TABLE XV. RECORD OF CLASS ATTENDANCE AND WEATHER CONDITIONS—EXPERIMENTAL GROUP

Students	November								December			
	D	T	D	T	D	T	D	T	D	T	D	T
1	6		13		20		27		4		11	18
2	6		13		20		27		4		11	18

3	6	13	20	27	4	11	18
4	6	13	20	27	4	11	18
5	6	13	20	27	4	11	18
6	6	13	20	27	4	11	18
7	6	13	20	27	4	11	18
8	6	13	20	27	4	11	18
9	6	13	20	27	4	11	18
10	6	13	20	27	4	11	18
11	6	13	20	27	4	11	18
12	6	—	20	27	4	—	18
13	6	13	20	27	4	11	18
14	6	13	20	27	4	11	18
15	6	13	20	27	4	11	18
16	6	13	20	27	4	11	18
17	6	13	20	27	4	11	18
18	6	13	20	27	4	11	18
19	6	13	20	27	4	11	18
20	6	13	20	27	4	11	18
21	6	—	20	27	4	11	18
22	6	13	20	27	4	11	18
23	6	13	—	27	4	11	18
24	6	13	20	27	4	11	18
25	6	13	20	27	4	11	18
26	6	13	20	27	4	11	18
27	6	13	20	27	4	11	18
28	6	13	20	27	4	11	18
29	6	13	20	27	4	11	18
30	6	13	20	27	4	11	18

D—Date
T—Temperature not a disturbing factor

The experimental group was divided into two sections. One section was taught by a man of sixty years, Coal dealer, pleasing personality, but no teaching experience. The other section was taught by a young lady of about eighteen years of age who had no teaching experience but was preparing to teach in the State Schools.

It seems obvious that the teachers of the control group were superior to the teachers of the experimental group, but of this we cannot be certain. There are other factors, than those stated, which may be of major value in determining the relative value of teachers of religion; such as devotion, spirit of sacrificial service, etc. However, the

teachers involved in a controlled experiment should be equalized between the experimental and control groups. Such was not possible in the present experiment.

The experimentor met with the teachers of the experimental group one week in advance of the teaching of each lesson unit. The teachers were given a typewritten outline of the lesson plan as in chapter three. This was discussed, explained in detail, and the precise method employed clearly set forth by the experimentor. The lesson unit as thus prepared was presented in terms of experinces to the class the following week, the teacher acting as director and adjuster of the experiences through which the students should pass.

An effort was made to maintain standard teaching conditions, in as far as the physical equipment of the churches would permit, by employing the following teacher's check sheet.

TEACHER'S CHECK SHEET

	November 6			13			21			27			Dec. 3		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
Class room equipment															
Class room															
Attention															
Interest															
Response															
Ventilation															
Temperature (check degrees)															

Class periods, how long ..... of equal duration.....

Is class well graded? yes ..... no .....

Name any conditions that may have disturbed the teaching situation .....

.....

Name any student who became a disturbing element in class procedure .....

.....

Name any student who gave occasion for special cases of discipline and outline briefly what gave rise to the same ...

.....

Attendance (see separate class attendance sheet) .....

The two sections of the control group which met in the Evangelical church basement suffered from inferior classroom equipment which probably gave rise to a lack of attention and necessity for discipline. The best attention, the keenest interest and the most ready response was evidenced in the experimental group, in the section taught by the young lady. These facts must be considered in any conclusions that the experiment may seem to warrant.

THE CONTENT OF LESSON UNITS

The lesson units for both groups were selected from Blanche Carrier's book, "The Kingdom of Love," Part II. The content of the lesson units was adapted to the experimental method as outlined in chapter three and weighted in the light of the reaction of nearly one thousand students. The response of students in grades five, six, seven, eight and nine indicated that the students already possessed important attitudes which the lesson units were designed to develop. Ninety six per cent possessed a superlative liking for God. Eighty-four per cent possessed a superlative liking for Jesus and the other sixteen per cent indicated a liking of the next lower degree, etc. While only twenty-four per cent of the children were reading the Bible regularly and fifty per cent seldom or never read the Bible; only forty-one per cent prayed regularly and the majority of these did not know what they prayed for, etc.

Emphasis was placed, in the selection of experiences, upon the factors that were deemed contributory to worship

and reverence, relative to the absence of presence of such factors at the beginning of the period of instruction. The absence or the presence of the desired realizations, sensings, attitudes, motives and standards, were determined by the reaction of the children to the tests given.

TESTS

All tests were given, through the courtesy of the Supervising Principal in the Public Schools under normal class room conditions by the experimentor. Thus it was possible to ensure uniformity in the administration of the tests, which is a highly desirable condition in all experimentation of this sort. Precautions were taken to remove conditions that might induce the children to conceal their real attitude in their response. The student's name did not occur on the test. Identification was rendered possible through a number on the back of the test and a list of the students as seated at the time of taking the test.

The test was composed of six sections. Section one was confined to general information. Section two dealt with degrees of likes and dislikes concerning factors relative to worship. The remaining three sections included intellectual belief, the probable situational response, and the superlative emotional response toward elements of worship and reverence.

The test was weighted, for scoring purposes, by asking a representative group of judges to evaluate the test on the basis of one hundred to be divided between the five sections of the test. The arithmetical average of the valuations is given in Table XVI. This average was taken as an index to the relative value of the parts of the test. The scoring was similar to the principles for scoring the test used in Experiment II.

TABLE XVI. WEIGHTING BY COMPETENT JUDGES

Judge No.	Part 1	Part 2	Part 3	Part 4	Part 5
S. S. Supt. 4	19	18	18	17	28
S. S. Teacher 5	19	17	19	17	28
Teacher 5	19	18	23	19	21

Theol. Prof. 4	29	14	17	14	28
Theol. Student 4	23	19	20	18	20
Ministers 5	22	13	18	17	30
Rel. Ed. Exp. 6	22	17	18	19	24
Arith. Average	22	17	19	17	25

The Following Questions Will Aid in Determining The Attitude of Reverence Through Worship.

Grade .....Boy .....Girl .....

Age-years ..... Month in which birthday occurs .....

Father's occupation .....

Does Mother work away from home? ... If so what at? ...

Does Mother ..... Father ..... Attend church?.....

Are you a member of a church? .....

In The Following List of Words

If you do not like that for which the word stands cross out the word, X

If you do like that for which the word stands underline the word, ——

If you like **very much** that for which the word stands use a circle, ( )

If you like **very very much** that for which the word stands use, V

God	Jesus	Bible	chapel	prayer
Sunday	singing	purity	worship	honor
respect	devotion	church	hymns	moral
sin	profanity	sorrow	love	reverence
sacrifice	selfishness	goodness	kindness	loyalty
obedience	faith	hope	sympathy	sincerity

Check the Following According to Your Practice

	Never	Seldom	Often	Regularly
Do you attend church?				
Do you attend Sunday School?				

Do you contribute money? .....

Do you read the Bible? .....

Do you pray? .....

Do you say grace at the table? .....

Do you take part in family worship? .....

What do you pray for? .....

What hymn do you like best? .....

Check that which you like best in worship.

1 Music
2 Prayer
3 Bible reading
4 Sermon or talks

Check what you do during prayer.

1 Look around
2 Talk to others
3 Close the eyes
4 Engage in prayer

IN THE FOLLOWING QUESTIONS CHECK ANY OF THE FOUR SUGGESTED ANSWERS WHICH BEST EXPRESS YOUR BELIEF AND STATE BRIEFLY WHY YOU THUS BELIEVE.

Do you believe that God is with you? .....
Why do you thus believe?

1 Never
2 Seldom
3 Sometimes
4 Always

Do you believe that you can worship God best? .....
Why do you thus believe?

1 When in the Woods
2 When playing
3 Reading the Bible
4 At church

Do you believe that God loves you? .....
Why do you thus believe?

1 When you sin
2 When you do not pray
3 When unkind to others
4 When you are good

Do you believe that God?..
Why do you thus believe?

1 Sees you always
2 Hears you always
3 Rewards you always
4 Punishes you if wrong

Do you believe that praying? .....
Why do you thus believe?

1 Helps you to live better
2 Helps you to be kinder
3 Helps you to get things
4 Helps you to feel God near

IN ANSWERING THE FOLLOWING QUESTIONS CHECK THE WORDS WHICH EXPRESS WHAT YOU WOULD DO IF SUCH THINGS SHOULD HAPPEN

1 If you saw a person act disrespectfully toward the church or chapel property would you?...

1 Join him, act thus
2 Say nothing
3 Tell him to stop
4 Pray about it

2 If you heard a boy speak disrespectfully of God would you? .....

1 Laugh
2 Say nothing
3 Tell him to stop
4 Tell him God was present

3 If a boy talked to you during church or chapel service would you? ....

1 Talk to him
2 Say nothing
3 Tell him to stop
4 Tell him God was present

4 If you saw a person in trouble would you? ...

1 Feel glad
2 Feel grieved
3 Sympathize
4 Try to relieve

3 If you heard a person use profane language would you? .....

1 Swear also
2 Say nothing
3 Tell him to stop
4 Tell him God was present

IN THE FOLLOWING QUESTIONS UNDERLINE THE WORDS THAT BEST EXPRESS HOW YOU FEEL AND STATE BRIEFLY TWO EXPERIENCES THAT HAVE CAUSED YOU TO FEEL THUS.

1 Do you feel / feel strongly / feel most strongly that it is wrong not to attend church?

Give two experiences that have caused you to feel thus.
A
B

2 Do you feel / feel strongly / feel most strongly that you should pray every day?

Give two experiences that have caused you to feel thus.
A
B

3 Do you feel / feel strongly / feel most strongly that God is grieved when you disobey?

Give two experiences that have caused you to feel thus.
A
B

4 Do you feel / feel strongly / feel most strongly that God is in the church during worship?

Give two experiences that have caused you to feel thus.
A
B

feel
5 Do you feel strongly that you should be loyal to God?
feel most strongly

Give two experiences that have caused you to feel thus.
A
B

TABLE XVII. SCORES OF BASIC AND FINAL TESTS—CONTROL GROUP

Student's Name	Age	I. Q.	Reading	Basic	Final	Gains
1	10.1	122	117	71	84	13
2	11.5	120	105	80	84	4
3	9.11	115	118	63	76	13
4	10.10	112	100	81	82	1
5	11.7	111	113	76	73	3
6	12.6	110	103	76	81	5
7	10.5	101	108	51	44	6
8	10.10	102	103	63	69	6
9	12.8	94	96	64	63	1
10	11.6	93	96	60	—	—
11	10.11	86	88	70	77	7
12	13.3	85	58	39	—	—
13	11.7	70	77	—	—	—
14	11.4	67	84	40	54	6
15	13.6	115	154	—	—	—
16	11.11	115	164	61	65	4
17	11.8	114	156	60	62	2
18	12.12	110	132	50	58	8
19	15.2	105	148	45	49	4
20	11.8	104	128	86	81	-5
21	11.8	103	120	63	70	7
22	11.11	103	100	69	68	-1

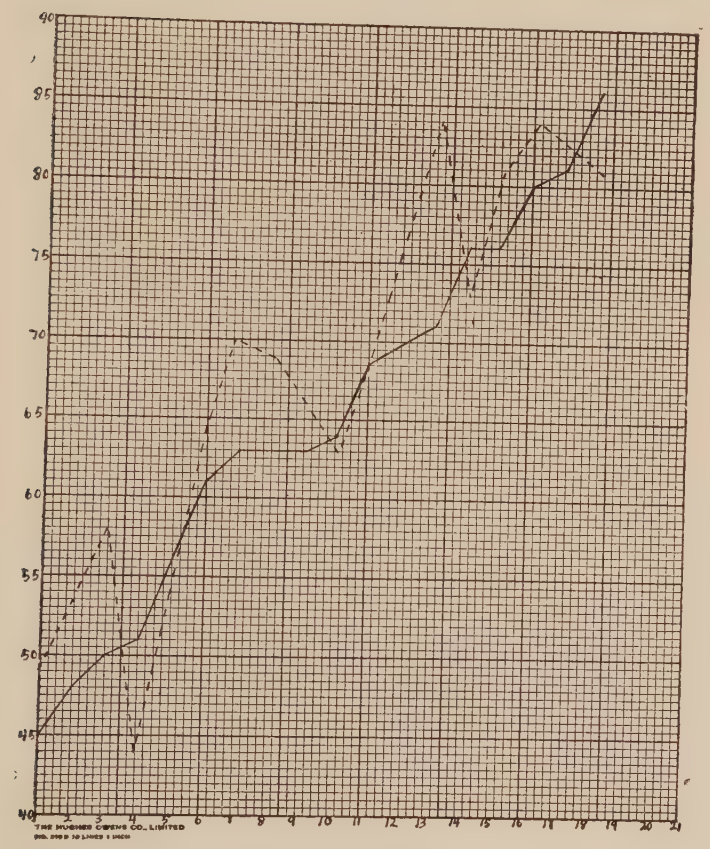
TABLE XVIII. SCORES OF THE BASIC AND FINAL TEST—EXPERIMENTAL GROUP

Student's Name	Age	I. Q.	Reading	Basic	Final	Gains
1	10.7	114	130	68	85	17
2	11.3	112	118	70	83	13
3	11.5	110	114	—	—	—
4	11.3	100	112	55	81	26

5	11.8	100	104	85	95	10
6	10.8	100	125	73	74	1
7	10.9	95	111	52	72	22
8	10.7	90	77	65	72	7
9	12.1	90	68	—	—	—
10	11.0	85	94	60	71	11
11	11.6	84	109	—	—	—
12	12.8	85	74	63	69	6
13	13.2	81	53	—	—	—
14	11.11	78	98	44	56	11
15	13.0	76	67	67	77	10
16	11.9	73	74	58	64	6
17	13.2	72	69	—	—	—
18	12.3	71	87	—	—	—
19	12.6	71	67	42	54	12
20	12.3	122	147	59	65	6
21	13.3	112	177	77	84	7
22	13.5	112	131	55	71	16
23	14.0	108.5	130	66	75	9
24	12.11	108	148	71	72	1
25	12.7	108	137	67	85	18
26	12.11	106	164	69	75	6
27	13.3	103	156	58	72	14
28	13.8	98	87	66.5	64	-1
29	13.8	96	159	78	77	-1
30	12.12	87	129	78	87	9

GRAPH V. ACHIEVEMENT GRAPH—CONTROL GROUP —EXPERIMENT II.

Scores



Students

Unbroken line represents the scores of students before instruction.

Broken line represents the scores of students after instruction.

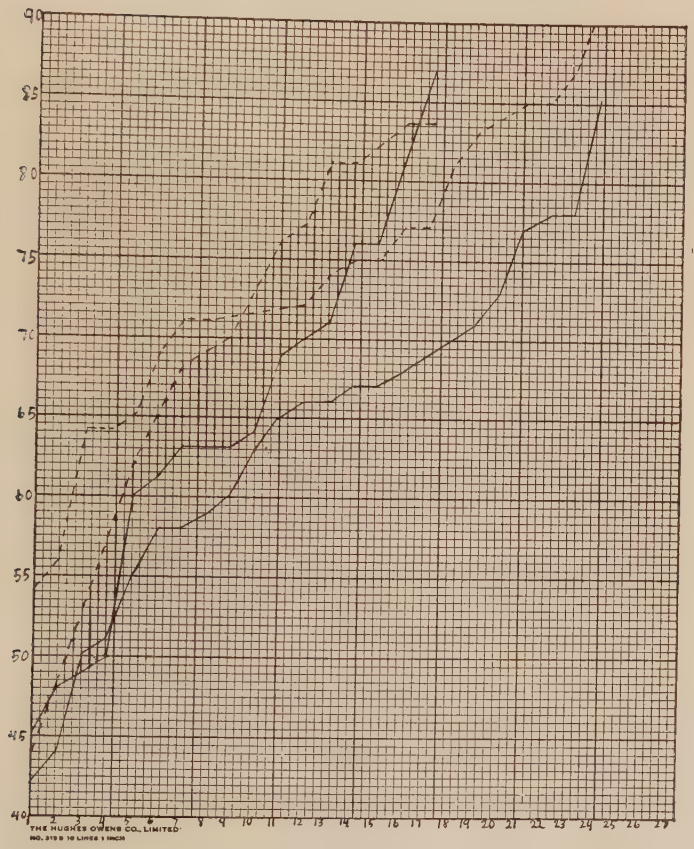
GRAPH VI. ACHIEVEMENT GRAPH—EXPERIMENTAL GROUP—EXPERIMENT II.

Unbroken line represents the scores of students before instruction.

Broken line represents the scores of students after instruction.

GRAPH—VII. COMPARATIVE ACHIEVEMENT GRAPH—EXPERIMENT II.

Scores



Students

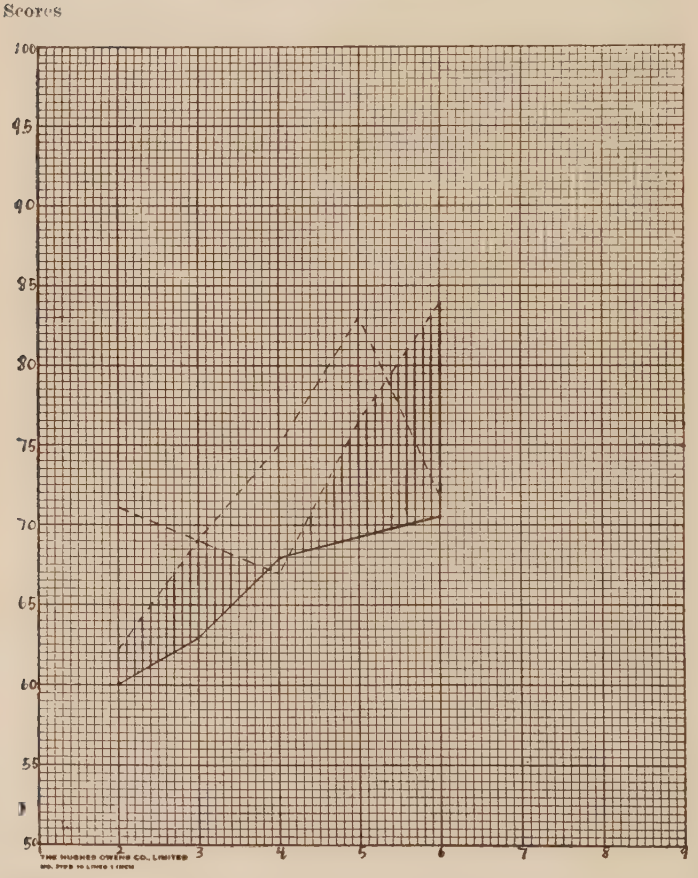
Unbroken lines represent the scores of the students before instruction.

Broken lines represent the scores of the students after instruction.

Shaded portion represents the achievement of the control group during instruction.

Unshaded portion represents the achievement of the experimental group during instruction.

GRAPH VIII. PAIRING ON THE BASIS OF BASIC TEST SCORES—EXPERIMENT II.



Unbroken line represents the scores of students of equal achievement in the experimental and in the control groups, before instruction.

Broken lines represent the scores of students after instruction.

Shaded portion represents achievement of control students.

TABLE XIX. STUDENTS' ACHIEVEMENTS COMPARED ON THE BASIS OF INTELLIGENCE QUOTIENT

Experimental group		Control group	
Basic test	Final test	Basic test	Final test
122	23	122	6
114	17	114	2
112	7	112	1
103	14	103	7

TABLE XX. STUDENTS' ACHIEVEMENTS COMPARED ON THE BASIS OF READING SCORES

Experimental group		Control group	
Basic test	Final test	Basic test	Final test
164	6	164	4
148	1	148	4
156	14	156	2
118	13	118	13

TABLE XXI. STUDENTS' ACHIEVEMENTS COMPARED ON THE BASIS OF THE BASIC TEST

Experimental group		Control group	
Basic test	Final test	Basic test	Final test
60	71	60	62
63	69	63	70
69	75	69	68
71	72	71	84

TABLE XXII. STATISTICAL COMPARISON OF GROUP ACHIEVEMENT

Groups		Basic test	Final test	Gain
Median	Control group	63	65	2
	Experimental	67	73.1	6.1
First quartile	Control group	57	56.3	.7
	Experimental	57	67.9	10.9
Third quartile	Control group	76	80.5	4.5
	Experimental	72	77.8	5.8

The scores of the basic and final tests are set forth in tabulated form. They are graphically presented in graphs V, VI, VII and VIII. On the basis of the statistics thus presented the achievement of the control and the experimental groups seems evident. But when we compare the achievement of individual students within the groups, on the basis of relative intelligence quotient, reading, and the basic test scores as presented in tables XIX, XX and XXI the apparent greater increase in achievement is not uniform. Some students in the control group achieved more than students in the experimental group of equal scores on the basic test, likewise on the basis of reading. While the achievement of the experimental group appears greater than the achievement of the control group, graph VII, it does not warrant the conclusion that the instruction complex method produced better results with every student. Before such a conclusion would be arrived at, it would be necessary to build validated tests, perform extended experimentation and diagnose the causes of individual student's variations.

TENTATIVE CONCLUSIONS

There was relatively little difference in the achievement of the control and experimental groups at the begining of the period of instruction as revealed by the scores of the basic test and Graphs V, VI and VII. After the period of instruction, the experimental group showed the greater achievement, graph VII. But when students of equal rank are compared from the experimental and the control group, little can be said concerning the comparative achievement of individual students.

The reaction of nearly one thousand students to the basic test indicates that time might be economized, efforts conserved and the needs of individual students more adequately met if adequate tests, based on the content of the lesson units, were developed and given to the students before the lesson units were employed in class room procedure.

In the light of the student's reaction, over-stimulation could be avoided and understimulation augmented by more experiences relative to the strength of the desired control.

As in Experiment I, a marked change was evident in the motivation of the students in the experimental group after the period of instruction.

SOME LIMITATIONS OF THE EXPERIMENTATION

The experimentation has been limited by the lack of adequate tests. Until there are available instruments of measurements applicable to realizations, sensings, motives, attitudes and standards, experimentation of this type must continue to be limited. The present experiment could not be conducted until tests had been constructed. To perfect such tests is a task of no small proposition—Hartshorne states the task of perhaps a decade.

The experimentation was futher limited by the lack of time and facilities. Determinate research, in the field of religious education calls for years of patient work. Such time was not at the command of the experimentor. Adequate facilities are most difficult to secure under present organization and practice.

CHAPTER V.

SOME DIFFICULTIES IN THE WAY OF MEASURING EMOTIONAL RESPONSES AS CONTRIBUTORY TO THE DEVELOPMENT OF CHARACTER CONTROLS

The present chapter presents some difficulties that arise in measuring emotional responses which are contributory to the development of character controls. Such difficulties may be classified as: difficulties that arise from physical conditions; difficulties that grow out of the complexity of the thing to be measured; and difficulties that are involved through the lack of measuring instruments.

Difficulties that arise from physical conditions may be of minor importance. This will depend on the nature of the physical conditions, the nature of the thing to be measured, and the relative purpose of the measurement. If the physical condition is a matter of class room equipment, it may be comparatively easily adjusted. But, if the physical condition is the small amount of available time such may assume major significance for purposes of experimentation.*

The nature of the thing to be measured may determine the degree of difficulty for experimentation. For example, if it were desired to measure the absence or presence of ideas such might be easily accomplished. But if it were desired to measure the absence or presence of the complex attitude of reverence this might prove a major difficulty.

The purpose of measurement may involve still futher difficulties of varying degree. If the purpose were to measure the number of ideas that a student could retain for a given length of time, the difficulties involved would be very different from the difficulties involved in measuring the

* Experimentation is used in this chapter to refer to the type of experimentation carried on in this study.

deviations in the change of the student's attitude of reverence with a change in intensity of stimuli.

The specific difficulties that arise from physical conditions may be summarized as:

1. Unfavorable Time Conditions

The present organized system of Religious Education does not offer adequate time for experimentation. Secular education is so highly organized that it has utilized the student's time. If research workers break into school time, legal provision must be made and justified by the value of the experimentation.

2. Unfavorable Curriculum Content

At present there is little uniformity in the curriculum content either in Sunday School or in Week-day Church Schools. There may be as many different Sunday School lessons as there are churches in the town. A Week-day Church School selects its own texts, usually the minister makes the selection, from a multitude of publications. This lack of uniformity, greatly impedes the progress of experimentation. Besides, the curriculum content is usually unsuited to the purposes, techniques and procedures of experimentation. Great difficulties are involved in interjecting a specific course of studies into a denominational series. The denomination may object, the minister of the church may object, the superintendent of the Sunday School may object, the Sunday School teacher may object, and the students may object. It is similar with the Week-day School of Religion.

3. Inadequate Class Room Facilities

Many Schools of Religion, Sunday or Week-day, conduct the instruction period in some section of the church. It may be in a one room basement, poorly lighted, poorly ventilated, classes separated by loose curtains, seating poor, no desks, no blackboards, students closely crowded, noise deafening, and nearly every admitted physical condition, condu-

cive to efficient teaching, violated. It may be the church auditorium, the equipment of which is nearly as undesirable as the basement. It may be the Sunday School hall with its several antiquated rooms the sides of which open and close like the shells of a clam. These so-called class rooms, barren of all but seats and walls, render efficient class room procedure very difficult and measurements impracticable. The physical conditions of different class rooms become disturbing variables, which are difficult to control or to equalize.

4. Inadequate Instruction Conditions

Adequate instruction conditions necessitate both standard equipment and effective grading relative to the purpose of the specific instruction. The grading system that is generally used in the various schools of religion is based upon chronological age or upon secular school grading which are accepted without question. If the chronological age be adhered to, the best psychological findings of the past fifteen years are ignored and students of eight years and of fifteen years mentally are herded together. Such range of mentality cannot be effectively stimulated by the same experiences. If the school grading be followed, it is assumed that grading which is most effective for teaching arithmetic, algebra and spelling is also efficient for teaching a very different contest, designed to produce very different results, by very different methods of instruction. We have no evidence that the present grading system provides conditions whereby the moral and emotional needs of the student can be efficiently satisfied through instruction. This gives rise to unending difficulties in extended experimentation.

5. Untrained Teachers

"The teachers in the Sunday School and in the Bible school are notoriously inexpert both in the knowledge of the objectives to be sought and in the materials and methods to be employed, and their skill in instruction is pro-

bably even Less." [1] The inexpertness is often increased by the assumption that piety is an essential pre-requisite for teaching in a school of religion. Personality is not inrequently given minor consideration. Comparatively weak, pious, middleaged individuals, largely women compose the staff of untrained teachers. "The teachers of religion today are untrained, unsupervised, voluntary workers, who undertake the work of teaching religion from a sense of duty to the rising generation. For the most part they are mature men and women with less that half of a modern high school education, entirely without pedagogical training, who have never pursued a single systematic course in the Bible." [2] Such teachers render experimentation exceedingly difficult.

While such conditions may be less pronounced in the Week-day Church School, with few notable exceptions, the teaching staff is quite unfamiliar with modern methods of teaching and ignorant of the techniques and procedures employed in experimentation. Such gives rise to numerous difficulties in measuring and testing the results of instruction or in determining the degree of character control that may exist.

6. Conservatism Of The Church

The conservation of the church militates against any new thing. The minister, not infrequently, looks out through the windows of his self-erected walls of protection, with suspicious eyes on any effort that savors of science. He generally, has little tolerance for that which may disprove present methods or lay bare unknown conditions. Such creates prejudices in the lay mind which render a scientific attitude of mind highly improbable. Without the scientific attitude little determinate experimentation can be conducted.

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1. Betts, G. H., Possibilities of Experimentation with the religious curriculum. Religious Education, 23:229, March; 1928.
2. Athearn, W. S., Character building in a democracy, P. 66.

Difficulties That Arise From The Nature Of The Things Being Measured

Any emotional response involves the entire person. Many character traits are involved in every emotional response. "No character . . . is a unitary entity" [3] An attitude is a most complex phase of life. Thurstone thinks an attitude sufficiently complex to necessitate very definite liminations before measurement is possible. "The first restriction on the problem of measuring attitudes is to specify an attitude variable and to limit the measurement to that." [4] Motives and standards are still more complex for they both include attitudes.

Since the emotional response—the thing to be measured in this type of experimentation—is not a unity but a complexity, it becomes exceedingly difficult to keep but one factor variable or to determine just what is being measured. In writing of this subject May states "just what emotional factors are tested is not clear but they—tests—have value even if the results are hard to interpret." [5]

The nature of an emotional quality prevents an assurance that the subject is not hiding his true attitude, motive, standard, etc. All that can be measured is what people say they believe and how they say they feel, even if their conduct turns out to be inconsistent with their expressed beliefs and their expressed feelings. We have no assurance that conduct is a true index of a person's feelings or beliefs unless all social pressure and all social restraints are removed. During the world war it was discovered that the removal of social restraints and social pressures oft times turned saintly conduct into fiendish be-

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3. Witty, P. A. and Lehman, J. F., The so-called general character tests. Psychological Review, 34:434, November : 1927.

4. Thurstone, L. L., Attitudes can be measured, American Journal of Sociology 33:535, January : 1928.

5. May, Mark, What Science offers on character education. Religious education, 32:469, June : 1929.

havior. No one knows as well as the individual what his beliefs and his feelings are. While it may be possible to measure expressed beliefs and expressed feelings a real difficulty arises as soon as we attempt to interpret the extent to which the subject has expressed what he really feels. "The problem of bringing human emotions, drives and social attitudes to adequate expression in an artificial test is a perplexing but perhaps not an impossible one." [6] "All that we can do is to minimize as far as possible the conditions that prevent the subject from telling the truth, or else to adjust our interpretation accordingly." [7] A further difficulty in the way of measuring emotional responses arises from the readiness with which the feelings change. "A pupil's performance . . . . depends upon his physical, mental and emotional conditions. These change from day to day, and from hour to hour, and cause marked variations in successive scores of some pupils." [8] Such exposes the results of experimentation to misinterpretation and misapplication.

Any emotional response depends on the strength of the stimuli employed and the condition of the mental set of the subject at the moment of the stimulation and at the moment of responding. Both of these factors involve variables that are difficult to detect and more difficult to control. The condition of the subject depends upon his physical, mental and emotional state and his "felt need" all of which may vary in numerous ways. The strength of the stimuli is probably a function of several variables such as: the individual's likes and dislikes; the imagined or real social approval or disapproval; specific environmental conditions; the specific pattern responses that have been built up through experience; the intensity of the stimuli; etc.

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6. Allport, F. L., Social Psychology, P. 137.

7. Thurstone, L. L., Attitudes can be measured, American Journal of Sociology, 33:534, January : 1928.

8. Monroe, W. S., DeVoss, F. C., Kelly, J. C., Educational tests and measurements, P. 69.

NO KNOWN MEASURING INSTRUMENT FOR THIS TYPE OF EXPERIMENTATION

The head of the department of measurements at the University of Pennsylvania, organized in 1926 a committee of graduate students, interested in Religious Education. For two years the writer was a member of this committee. The committee undertook to secure samples of all available tests and scales published in the field of Religious Education until January the first, 1928. Many of the tests were subjected to the reaction of children and all the tests were carefully analyzed, summarized and reported to the graduate group in standards and measurements. This report is available at the department of measurements at the University of Pennsylvania. Watson later published a book which contains an independent duplication of some of the collective work of the above named committee.

The report of the committee reveals that until the beginning of 1928, there was not a single test or scale, published, that could be applied to the measurement of realization, sensing, attitudes, motives and standards as contributory to the development of character controls through instruction.

During the year 1928 lists of tests, in the field of Religious Education, have been published in the Journal of Religious Education. In the March issue of the above magazine for the year 1928, Watson lists the tests which in his judgment might be used in Church Schools, in an article, "What Tests Can We Use in Church Schools." In the June number of the same journal, Chave has given a detailed list of tests available for diagnosis and measurements in an article entitled, "A Guide to the study of the Religious Life of Children." In the same issue of the same journal, May has classified and analysed the best known tests applicable to character education. These articles do not refer to a single test or scale that might be applicable to the measurement of character controls, in the present type of

experimentation. Since the June issue, the Journal has not a single reference to any test or scale having been published in the field of Religious Education that might be applicable to the measurement of character controls.

Communication from the Research Department of the Religious Education Association, Chicago Ill., from the Department of Research of the Presbyterian Church of America; from the Personnel Bureau at Washington, D. C.; and from publishers of Tests, indicate that tests of scales that might serve as measuring instruments of character controls have not been rendered available, nor are such known to exist. This fact is, perhaps the greatest difficulty confronting the progress of experimentation of the sort outlined above. The development of reliable tests that will yield relatively accurate results is imperative to experimental progress in this field.

CONCLUSIONS

In general this study is related to extended experimentation in the field of character controls, as the architect's plans are related to the construction of the building.

It demonstrates (1) that certain character controls, as defined in it, are based upon psychological facts and principles which determine the methods of making them controlling of individual conduct through instruction; (2) that such methods of ensuring their control together constitute a procedure for making a selected character education outcome thus controlling through building up an instruction complex.

(3) By setting up a resulting method of procedure here called "the instruction complex method," and using it in lesson units planned to make certain elements in reverence controlling in the conduct of an experimental group of week-day church school pupils, it tentatively proved that the instruction complex group showed more controlling outcomes, than a controlled group taught the same materials organized in another and a different specified form.

(4) By so doing it showed that such an instruction procedure is practicable in character education, and that it can be subjected to experimental tests.

(5) But it also demonstrated the imperative need for reliable tests which will measure character control as defined in this study, and through their absence at the beginning of the year 1929, the dependence of universally valid results upon the working out of such tests.

(6) The study is therefore less of a proof of the superiority of the instruction complex method, than an illustration of the procedure involved in its application in the field of character education, and a demonstration of what must be tested, together with a pioneer effort at such testing,

through the use of "superlative feeling questionnaires" supplemented by check-ups through the recall of experience contributory to the feelings tested for.

(7) The reaction of nearly one thousand pupils indicated that the needs of individual pupils might be more adequately met, if the content of lesson units was weighted relative to the strength or weakness of the desired control in the experience of the pupils.

(8) The only conclusion to be drawn concerning the actual outcome of the procedure and of the tests used in the experiment, is the probability that a pupil's motives may be effectively changed by the instruction complex method, through a brief course of study and through the use of a comparatively few experiences or situations.

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